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Photometry of RW Draconis at Konkoly Observatory*

Szeidl B., Oláh K., Barlai K., Szabados L.

Konkoly Observatory of the Hungarian Academy of Sciences,
P.O. Box 67, H-1525 Budapest, Hungary

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PHOTOMETRY OF RW DRACONIS AT KONKOLY OBSERVATORY

Abstract

We present 2863 photographic observations performed in the years 1952-1957, 373 photoelectric observations made in integrated light in the years 1954-1956, and 4114 V, 3962 B and 63 U observations of RW Dra obtained between 1958 -1975. Times and brightness of maximum light are also given.

Key words: Stars – variable: RR Lyrae; stars – individual: RW Dra – Techniques: photometric

INTRODUCTION

Seventy years ago Dr. Julia Balázs and Prof. L. Detre started a comprehensive study of RR Lyrae stars (Balázs & Detre, 1938). They paid special attention to the stars that showed light curve variation (i.e. Blazhko effect using modern terminology). One of their program stars was RW Dra. Their early study based on more than 6000 photographic observations has already been published (Balázs & Detre, 1952). Since that time the star has been intensively observed both by photographic and photoelectric methods at the Konkoly Observatory. In this paper we publish these observations. A comprehensive investigation of all published data of RW Dra will be published elsewhere.

The variability of RW Dra was discovered by Ceraski (1906) on Moscow plates and the preliminary name 87.1906 was given the star. Blazhko (1907) carried out the first intensive investigation of the light variation of RW Dra. He determined the star's pulsation period and found the evidence for the phase oscillation of light maximum with a period of 41.6 days. A historically important fact is that S. Blazhko was the very first who recognized long period phase oscillation in an RR Lyrae star (namely in RW Dra itself) and the phenomenon is deservedly called Blazhko effect.

OBSERVATIONS

Photographic observations

Photographic photometry was made at the Konkoly Observatory with the 16 cm astrograph from September 10, 1952 through November 23, 1957 on 95 nights. In the years 1952 and 1953 Eastman 40, and in the subsequent years Guilleminot Superfulgur plates were used with either 3 or 4 min. exposure times depending on the sky condition. The plates were measured with the observatory's Cuffey-type iris photometer. The comparison stars and their magnitudes used were taken from the paper of Balázs and Detre (1952). The 2863 photographic observations obtained are presented in Table 2. The time of the observations are converted to HJD. The estimated error of the observations is $0.05-0.10$ magn.

Photoelectric observations in integrated light

The early photoelectric photometry was conducted by L. Detre with the observatory's 60 cm telescope without using any filter. From 1954 an RCA 1P21 photomultiplier tube was employed in the photometer. Although these observations are on an indefinite photometric system, they may be useful in investigating the period changes and the Blazhko effect of RW Dra. The 373 observations published here in the sense variable minus comparison (s. Table 3) were made on 8 nights. The comparison star used was GSC 03885-00893 (=USNO 1425- 08562266), the star labelled e in Balázs and Detre's (1938, 1952) papers.

UBV photometry

The UBV photoelectric observations were carried out with the 60 cm Newton telescope at Budapest from April 24, 1958 till October 15, 1972 and with the 50 cm Cassegrain telescope at Piszkéstető mountain station between August 3, 1973 and February 11, 1975. Before 1963 the mirror of the 60 cm telescope had a silver coating, and an RCA 1P21 multiplier was employed with Schott filters UG1 in U, BG12+GG13 in B and GG11 in V. Thereafter an EMI 9052 B tube with the same filter combinations as in the previous years was used and the mirror was aluminized. The 50 cm telescope was equipped with an unrefrigerated photometer. This photometer contained an EMI 9058 QB multiplier tube and the colour filters matched closely the UBV system: in ultraviolet light UG2, in blue light BG12+GG13 and in yellow light GG11 Schott filters were used. The observations of the variable were reduced in the usual way. The UT values have been converted to HJD. Correction for atmospheric extinction was not applied as the comparison star is very close to the variable. The instrumental observations have been transformed into the UBV system in the traditional way. The comparison star used during the UBV observations was the same as used in the photoelectric observations in integrated light. During 146 nights between 1958 and 1975 4114 V, 3962 B and 63 U observations were collected. Since the star is too faint for our telescopes, U observations were made only on four nights with the 60 cm telescope. The observations are presented in Tables 4, 5 and 6 in the sense variable minus comparison.

TIMES AND BRIGHTNESS OF LIGHT MAXIMUM

For further studies we determined times and brightness of light maxima from our observations. Although the times of light maximum in B and in V may differ from each other, the difference between them is usually less than or is about the error of their determination. Therefore we give the mean values of the times of B and V light maximum. The brightness of the photoelectrically observed maxima is given in differential magnitudes to the comparison star. We wish to continue the investigation of Balázs and Detre (1952) and therefore we also determined the times of the "middle" (at $m=11\overset{m}{.}5$) of the ascending branch of the photographic light curves and the times of two points (at $\Delta m=0\overset{m}{.}0$ and $\Delta m=-0\overset{m}{.}5$) on the ascending branch of the photoelectrically observed light curves. The results of the photographic, the white light and the B and V observations are presented in Tables 1a, 1b and 1c, respectively.

ACKNOWLEDGEMENTS

We are grateful to the late director of the Konkoly Observatory, Prof. L. Detre, who made the early photoelectric observations. We would like to express our thanks to the staff of the Konkoly Observatory for having taken share in the observations. Thanks are due to Dr. J. Benkő and to Mr. A. Holl for their help in preparing the manuscript. This work was partly supported by the Hungarian OTKA Research Grants No. T-30954 and T-30955.

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Ceraski, W. 1906, Astron. Nachr. 172.96

Table 1: A. Times and brightness of photographic maxima and times of the "middle" (m=11.^{m}5) of the ascending branches

year	t(max) 2400000+	t(m=11.^{m}5)	m(max)	year	t(max) 2400000+	t(m=11.^{m}5)	m(max)
1952	34270.440:	.4233	10.57		35267.	.4815	
1953	34443.	.6030			35283.406		10.86
	34451.580	.5580	10.58		35290.492	.4560	10.88
	34463.541	.5006	10.95		35291.381		10.88
	34486.	.5690:			35299.375:		10.69
	34490.	.5429			35310.462	.4388	10.60
	34502.	.4755			35314.452		10.50
	34514.500:	.4764	10.76:		35318.425	.4008	10.58
	34522.	.4543			35333.443	.4212	11.00
	34565.	.4205			35341.458	.4334	10.89
	34568.	.5131			35345.465	.4360	10.85
	34573.404	.3765	10.60		35358.301		10.80
	34576.487	.4668	10.77		35373.307		10.97
	34580.460	.4327	10.78		35377.307	.2804	10.90
	34596.	.4165			35393.298	.2720	10.52
	34607.524	.4992	10.78		35396.420:		10.60:
	34608.403	.3825	10.48		35408.345:	.3150:	11.40:
	34619.450	.4233	10.80	1956	35601.475	.4496	10.30
	34623.426		10.90		35749.376	.3390	10.88
	34627.414		10.97	1957	35934.559	.5282	10.61
	34636.314	.2765	10.77		35947.367	.3347	10.74
1954	34952.529	.5078	10.90		35982.382	.3565	10.70
	34956.508	.4808	10.91		35988.	.5281	
	34960.512	.4758	11.04		35989.451	.4119	10.78
	34964.510	.4813	10.90		35992.535:	.5073	10.85
	34968.	.4743			36000.	.4948	
	34976.497	.4714	10.68		36004.	.4926	
	34988.430	.4100	10.65		36005.414	.3617	10.87
	34992.402	.3841	10.87		36012.	.4852	
	35016.357	.3328	10.62		36020.469:	.4495	10.20:
	35031.391	.3695	10.63		36066.529	.5059	10.51
	35032.274	.2520	10.56		36074.475	.4482	10.84
	35039.346	.3133	10.96		36087.349	.3225:	10.76
1955	35228.526	.4968	10.40		36098.435	.4072	10.42
	35237.364		10.64		36102.421	.3892	10.42
	35240.456:		10.46		36118.332	.2933	10.90
	35244.433	.3977	10.77		36129.449	.4107	11.16
	35247.522	.4857	10.84		36137.410	.3915	10.90
	35251.528	.4848	10.96		36165.269	.2478	11.06
	35256.409	.3814	10.87				

Table 1: B. Times and brightness of maxima in integrated light and the times of the $\Delta m = 0\overset{m}{.}0$ and $\Delta m = -0\overset{m}{.}5$ points on the ascending branches

year	t(max) 2400000+	t($\Delta m = 0\overset{m}{.}0$)	t($\Delta m = -0\overset{m}{.}5$)	Δm(max)
1954	35032.2786	.2452	.2553	−1.05
1955	35237.3610			−1.31
1956	35694.4661	.4319	.4452	−0.95
	35695.3466	.3266		−0.96
	35706.3977	.3592	.3773	−0.67
	35726.3806	.3446	.3552	−1.14
	35738.3067	.2720	.2827	−1.01

Table 1: C. Times and brightness of photoelectric B and V maxima and the times of the $\Delta B = 0\overset{m}{.}0$, $\Delta V = 0\overset{m}{.}0$ and $\Delta B = -0\overset{m}{.}5$, $\Delta V = -0\overset{m}{.}5$ points of the ascending branches

year	t(max)	t($\Delta m = 0\overset{m}{.}0$)		t($\Delta m = -0\overset{m}{.}5$)		Δm(max)	
	2400000+	in B	in V	in B	in V	ΔB	ΔV
1958	36318.5417	.5160	.5175	.5236	.5265	−1.17	−0.90
	36338.4945	.4538	.4554	.4694	.4728	−0.99	−0.78
	36373.4562	.4189	.4194	.4389	.4446	−0.87	−0.66
	36400.4930	.4639	.4650	.4719	.4746	−1.25	−0.95
	36404.4708	.4323	.4351	.4438	.4490	−1.05	−0.78
	36408.4475	.4083	.4074	.4190	.4228	−0.95	−0.76
	36420.	.3915	.3958	.4132	.4207		
	36431.5245	.4912	.4904	.5031	.5058	−1.08	−0.90
	36447.	.3910	.3916	.4033	.4051		
	36451.4100				.3818	−0.95	−0.70
	36476.2535					−1.25	−0.95
	36514.3455	.3110	.3134	.3280	.3304	−1.12	−0.82
1959	36679.5600	.5287	.5292	.5382	.5412	−1.20	−0.95
	36695.4797	.4373	.4386	.4491	.4540	−1.05	−0.76
	36726.	.4781	.4800				
	36757.5125	.4806	.4816	.4900	.4934	−1.07	−0.86
	36761.5040	.4712	.4719	.4813	.4846	−1.18	−0.90
	36812.433:	.3995	.4004	.4069	.4115	−1.17:	−0.96:
1960	37117.	.5380:	.5410:				
	37134.4562			.4318	.4356	−1.26	−0.99
	37138.4440	.4066	.4095	.4168	.4225	−1.29	−1.00
	37145.5172	.4793	.4805	.4912	.4967	−1.02	−0.79
	37149.4865	.4485	.4485	.4612	.4648	−0.93	−0.67
	37173.4265	.3928	.3948	.4050	.4084	−1.17	−0.89
1961	37467.5375	.4985	.5006	.5094	.5139	−1.33	−0.95
	37468.4235	.3870:	.3875:	.3951	.3985	−1.26	−0.97
	37483.4465:					−1.13	−0.83
	37487.4340:	.3824	.3850	.3945	.4019	−0.98	−0.73
	37490.5350	.4860	.4865	.4990	.5070	−0.94	−0.67
	37494.5300	.4845	.4858	.5010	.5064	−0.94	−0.69

Table 1: C. cont.

year	t(max)	t(Δm=0^m.0)		t(Δm=$-$0^m.5)		Δm(max)	
	2400000+	in B	in V	in B	in V	ΔB	ΔV
1962	37840.4820:	.4403	.4410	.4496	.4527	-1.31	-0.96
	37851.5259	.4925	.4936	.5029	.5063	-1.26	-0.91
	37852.4095	.3772	.3764	.3864	.3920	-1.05	-0.82
	37856.3880					-0.95	-0.67
	37867.4760:	.4286	.4250	.4488	.4520	-0.84	-0.58
	37871.4750	.4275	.4350	.4492	.4621	-0.90	-0.58
	37883.4480	.4041	.4079	.4195	.4259	-1.15	-0.79
	37895.		.3325		.3470		-0.71
	37903.3270				.3109		-0.69
1963	38163.		.3372		.3495		-0.60:
	38236.4150		.3643	.3780	.3950	-0.86	-0.60
	38248.4085	.3726	.3748	.3871	.3956	-0.90	-0.68
	38264.			.3068	.3113		
	38267.4195	.3845	.3857	.3963	.4003	-1.18	-0.86
	38291.3800		.3395		.3524		-0.88
1964	38585.4752	.4364	.4362	.4472	.4504	-1.24	-0.91
	38605.3500				.3392	-0.88	-0.66
	38608.4635	.4158	.4173	.4344	.4400	-0.78	-0.54
	38621.3537			.3234	.3326	-1.04	-0.72
	38636.3782	.3526	.3538	.3601	.3638	-1.31	-0.96
	38655.4275	.3973	.3978	.4068	.4116	-0.95	-0.67
	38664.3245	.2768	.2797	.2893	.2987	-1.00	-0.80
	38668.3055	.2632	.2708	.2796	.2844	-1.10	-0.81
1965	38965.4855	.4480	.4501	.4626	.4678	-1.00	-0.71
	38981.3995	.3565	.3580	.3748	.3877	-0.86	-0.58
	38985.4025	.3696	.3695	.3794	.3850	-0.90	-0.70
	38989.	.3645	.3686	.3763	.3817		
	38993.3975	.3588	.3590	.3705	.3730	-1.12	-0.80
	39028.3755	.3343	.3320	.3536	.3598	-0.85	-0.63
	39056.2523			.2267	.2326	-0.98	-0.73
	39060.2395					-0.98	-0.68
	39064.2318			.2049	.2122	-0.96	-0.69
1966	39264.4195				.404:	-0.87	-0.59
	39267.5275:					-0.80:	-0.53:
	39268.4024	.3629	.3676	.3788	.3864	-0.86	-0.67
	39323.3725	.3347	.3405	.3517	.3597	-0.93	-0.65
	39326.4845			.4560:	.4605	-1.00	-0.79
	39346.3600:			.3376	.3444	-0.96	-0.68
	39349.4612	.4200	.4216	.4337	.4428	-0.86	-0.62
	39373.4270:	.3864	.3864	.3948	.3984	-1.23	-0.93
	39381.3770	.3415	.3415	.3519	.3564	-1.08	-0.83
	39409.3070	.2665	.2660	.2816	.2872	-0.98	-0.73
	39413.3000:	.2497	.2501	.2649	.2687	-1.06:	-0.86:

Table 1: C. cont.

year	t(max)	t(Δm=0$^{\rm m}$.0)		t(Δm=$-$0$^{\rm m}$.5)		Δm(max)	
	2400000+	in B	in V	in B	in V	ΔB	ΔV
1967	39581.5900	.5564	.5569	.5628	.5670	-1.25	-1.02
	39604.6025	.5589	.5643	.5759	.5842	-0.87	-0.66
	39605.4895			.4645	.4722	-0.88	-0.63
	39648.4630			.4319	.4352	-1.04	-0.83
	39667.5080	.4755	.4755	.4817	.4873	-1.32	-0.92
	39710.	.4310	.4294	.4412	.4453		
	39711.3513					-1.09	-0.84
	39714.4410			.4138	.4174	-1.16	-0.81
	39722.405:				.3784	-0.98	-0.77
	39726.40:			.3680	.3735	-1.12	-0.82:
	39738.3860	.3481	.3485	.3598	.3600	-1.13	-0.88
1968	39923.48:					-0.95:	-0.69:
	39942.5595	.5274	.5290	.5363	.5426	-1.19	-0.83
	39978.4319	.3863	.3865	.4096	.4197	-0.81	-0.58
	39985.5388	.5020	.5028	.5146	.5219	-0.96	-0.68
	39993.5075	.4694	.4718	.4807	.4851	-1.07	-0.83
	40012.5125	.4670	.4670	.4812	.4873	-0.91	-0.68
	40067.	.434:	.438:	.4481	.4545		
1969	40338.4945	.4510	.4524	.4676	.4764	-0.84	-0.62
	40354.49:	.4353	.4381	.4512	.4566		
	40357.	.5465	.5490	.5607	.564:		
	40389.4460					-1.05	-0.72
	40420.4270	.3898	.3934	.4036	.4138	-0.85	-0.60
	40436.4150	.3784	.3805	.3908	.4000	-0.97	-0.80
	40439.5215	.4820	.4844	.4946	.5006	-1.02	-0.81
1970	40675.5650	.5178	.5215	.5339	.5414	-1.00	-0.72
	40707.4530	.4097	.4089	.4245	.4265	-0.91	-0.68
	40769.4897	.4558	.4582	.4694	.4745	-0.97	-0.69
	40781.4392	.4106	.4075	.4199	.4213	-1.02	-0.86
	40796.	.4221	.4260	.4392	.4480		
	40807.5680	.5385	.5397	.5500	.5556	-0.95	-0.70
	40859.3984	.3693	.3700	.3838	.3902	-1.05	-0.81
	40867.3575	.3203	.3237	.3346	.3390	-0.99	-0.80
	40883.2900		.2647	.2736		-0.95	-0.70
1971	41035.	.6230	.6245	.6314	.6346		
	41060.	.4525	.4525	.4655	.4705		
	41063.594:	.5550	.5561	.5684	.5732	-1.08:	-0.86:
	41071.5550	.5153	.5160	.5267	.5333	-1.08	-0.80
	41087.4760	.4198	.4252	.4380	.4530	-0.82	-0.65
	41094.	.5408	.5449	.5552	.5595		
	41095.4710	.4274	.4302	.4424	.4483	-1.03	-0.76
	41118.4804					-1.21	-0.91
	41126.46:			.4130	.4270	-0.95:	-0.70:

Table 1: C. cont.

year	t(max)	t(Δm=0$^{\rm m}$.0)		t(Δm=$-$0$^{\rm m}$.5)		Δm(max)	
	2400000+	in B	in V	in B	in V	ΔB	ΔV
1971	41161.4295	.4020	.4032	.4145	.4179	-0.93	-0.72
	41189.3755	.3384	.3404	.3491	.3532	-1.27	-0.94
1972	41529.5128	.4847	.4854	.4948	.4973	-0.99	-0.74
	41537.47:	.4335	.4335	.4475	.4530	-0.89	-0.62
	41538.3595			.332:	.3425	-1.01	-0.73
	41545.4572	.4196	.4236	.4368	.4422	-1.02	-0.76
	41589.3215	.2713	.2783	.2946	.3052	-0.90	-0.65
	41597.3115	.2725	.2733	.2844	.2883	-0.96	-0.77
	41605.2775	.2404	.2387	.2487	.2517	-1.15	-0.89
1973	41898.4800	.4474	.4474	.4567	.4590	-1.19	-0.86
	41949.	.3502	.3513	.3637	.3696		
1974	42126.575:	.5414	.5437	.5532	.5575	-1.07:	-0.79:
	42216.5063	.4730	.4741	.4829	.4868	-1.11	-0.81
	42220.4960	.4640	.4640	.4727	.4756	-1.17	-0.90
	42224.4842	.4479	.4486	.4578	.4609	-1.17	-0.89
	42255.	.4444	.4462	.4588	.4646		
	42256.			.3456	.3562		
	42275.397:	.3635	.3638	.3700	.3732	-1.35:	-0.99:
	42278.4865	.4535	.4543	.4622	.4653	-1.15	-0.86
	42299.	.3016	.3016	.3126	.3175		

Table 2. Photographic observations of RW Dra

2434266 +
0.3237 +12.200
0.3258 +12.310
0.3314 +12.210
0.3334 +12.360
0.3355 +12.300
0.3376 +12.250
0.3397 +12.310
0.3418 +12.260
0.3439 +12.280
0.3459 +12.390
0.3480 +12.400
0.3501 +12.490
0.3522 +12.480

2434270 +
0.3610 +12.280
0.3631 +12.330
0.3652 +12.300
0.3673 +12.250
0.3694 +12.240
0.3714 +12.180
0.3735 +12.350
0.3756 +12.240
0.3776 +12.440
0.3798 +12.420
0.3819 +12.280
0.3839 +12.250
0.3860 +12.280
0.3881 +12.270
0.3902 +12.270
0.3923 +12.280
0.3944 +12.100
0.3964 +12.190
0.3985 +12.250
0.4006 +12.120
0.4027 +12.000
0.4159 +11.720
0.4180 +11.650
0.4200 +11.600
0.4221 +11.580
0.4242 +11.450
0.4263 +11.320
0.4284 +11.160
0.4305 +10.980
0.4325 +10.800
0.4346 +10.640
0.4367 +10.580
0.4388 +10.570

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0.5138 +12.360
0.5166 +12.360
0.5194 +12.300
0.5221 +12.280
0.5249 +12.300
0.5277 +12.190
0.5305 +12.110
0.5332 +11.990
0.5360 +11.790
0.5388 +11.790
0.5416 +11.660

2436051 +
0.3592 +12.280
0.3620 +12.230
0.3648 +12.360
0.3676 +12.130
0.3703 +12.130
0.3731 +12.180
0.3759 +12.240

0.3787 +12.240
0.3815 +12.190
0.3849 +12.270
0.3877 +12.230
0.3905 +12.200
0.3933 +12.300
0.3961 +12.270
0.3988 +12.290
0.4023 +12.250
0.4051 +12.310
0.4078 +12.270
0.4106 +12.370
0.4134 +12.290
0.4162 +12.270
0.4190 +12.320
0.4217 +12.280
0.4245 +12.370
0.4273 +12.260
0.4301 +12.320
0.4328 +12.350
0.4357 +12.290
0.4384 +12.280
0.4412 +12.240
0.4440 +12.350
0.4467 +12.170

2436054 +
0.3556 +12.180
0.3590 +12.100
0.3618 +12.230
0.3833 +12.130
0.3896 +12.180
0.3924 +12.120
0.3951 +12.290

2436066 +
0.4350 +12.290
0.4378 +12.340
0.4406 +12.390
0.4434 +12.340
0.4461 +12.330
0.4489 +12.250
0.4524 +12.390
0.4560 +12.360
0.4586 +12.290
0.4614 +12.350
0.4642 +12.400

0.4670 +12.460
0.4697 +12.320
0.4725 +12.470
0.4753 +12.410
0.4788 +12.320
0.4816 +12.350
0.4843 +12.350
0.4871 +12.500
0.4899 +12.430
0.4927 +12.430
0.4954 +12.190
0.4989 +11.980
0.5017 +11.800
0.5045 +11.590
0.5072 +11.430
0.5100 +11.300
0.5128 +11.240
0.5156 +11.080
0.5184 +10.800
0.5232 +10.710
0.5260 +10.530
0.5288 +10.510
0.5316 +10.540
0.5343 +10.520
0.5371 +10.560
0.5441 +10.690
0.5468 +10.670
0.5496 +10.760
0.5524 +10.760
0.5552 +10.780
0.5579 +10.820
0.5614 +10.980
0.5642 +11.030
0.5670 +11.120
0.5725 +11.080
0.5753 +11.150

2436074 +
0.4036 +12.400
0.4064 +12.320
0.4091 +12.280
0.4121 +12.340
0.4147 +12.280
0.4175 +12.380
0.4202 +12.330
0.4230 +12.270
0.4258 +12.300

0.4286 +12.330
0.4314 +12.210
0.4341 +12.160
0.4369 +11.990
0.4397 +11.900
0.4425 +11.780
0.4459 +11.610
0.4487 +11.520
0.4515 +11.310
0.4543 +11.090
0.4570 +11.070
0.4598 +10.980
0.4626 +10.940
0.4654 +10.930
0.4682 +10.900
0.4709 +10.830
0.4737 +10.860
0.4765 +10.880
0.4793 +10.850
0.4820 +10.860
0.4848 +10.910
0.4883 +10.890
0.4911 +10.940
0.4939 +11.020
0.4966 +11.050
0.5001 +11.080

2436087 +
0.2836 +12.130
0.2864 +12.180
0.2892 +12.280
0.2920 +12.180
0.2982 +12.090
0.3010 +12.080
0.3038 +12.170
0.3066 +12.180
0.3246 +11.400
0.3274 +11.260
0.3302 +11.100
0.3329 +11.060
0.3371 +10.870
0.3399 +10.940
0.3427 +10.800
0.3447 +10.780
0.3496 +10.760
0.3524 +10.730
0.3552 +10.800

0.3579 +10.830
0.3621 +10.880
0.3649 +10.920
0.3677 +10.920
0.3704 +10.910
0.3746 +11.020
0.3774 +11.020
0.3829 +11.130
0.3871 +11.090
0.3954 +11.100
0.3982 +11.230

2436098 +
0.3214 +12.350
0.3242 +12.350
0.3270 +12.500
0.3298 +12.380
0.3325 +12.460
0.3353 +12.460
0.3381 +12.420
0.3409 +12.420
0.3437 +12.440
0.3464 +12.340
0.3499 +12.420
0.3527 +12.480
0.3555 +12.430
0.3582 +12.490
0.3617 +12.420
0.3645 +12.420
0.3673 +12.320
0.3700 +12.420
0.3728 +12.420
0.3756 +12.430
0.3784 +12.480
0.3812 +12.440
0.3839 +12.420
0.3867 +12.340
0.3895 +12.260
0.3936 +12.320
0.3978 +12.220
0.4006 +12.120
0.4034 +12.030
0.4062 +11.620
0.4096 +11.300
0.4124 +11.280
0.4152 +11.120
0.4180 +10.930

0.4207 +10.700
0.4235 +10.650
0.4263 +10.520
0.4291 +10.500
0.4319 +10.410
0.4346 +10.440
0.4374 +10.390
0.4402 +10.470
0.4430 +10.500
0.4457 +10.530
0.4485 +10.650
0.4513 +10.680
0.4541 +10.640
0.4569 +10.750

2436102 +
0.2611 +12.530
0.2639 +12.580
0.2667 +12.440
0.2694 +12.450
0.2722 +12.560
0.2750 +12.500
0.2778 +12.570
0.2806 +12.550
0.2833 +12.430
0.2861 +12.500
0.2889 +12.530
0.2917 +12.430
0.2944 +12.560
0.2972 +12.500
0.3000 +12.600
0.3028 +12.450
0.3056 +12.610
0.3083 +12.450
0.3111 +12.500
0.3139 +12.500
0.3167 +12.500
0.3194 +12.440
0.3222 +12.430
0.3250 +12.550
0.3278 +12.560
0.3306 +12.550
0.3333 +12.610
0.3361 +12.420
0.3389 +12.560
0.3417 +12.520
0.3444 +12.440

0.3472 +12.560
0.3500 +12.450
0.3542 +12.490
0.3569 +12.540
0.3597 +12.550
0.3625 +12.420
0.3653 +12.490
0.3681 +12.570
0.3708 +12.570
0.3736 +12.460
0.3764 +12.610
0.3792 +12.390
0.3819 +12.060
0.3847 +11.900
0.3875 +11.620
0.3903 +11.450
0.3931 +11.420
0.3951 +11.300
0.3979 +11.140
0.4007 +10.920
0.4035 +10.700
0.4063 +10.610
0.4090 +10.530
0.4118 +10.500
0.4146 +10.510
0.4174 +10.410
0.4201 +10.460
0.4229 +10.400
0.4257 +10.450
0.4285 +10.480
0.4313 +10.480
0.4340 +10.540
0.4368 +10.520

2436115 +
0.2350 +10.650
0.2378 +10.780
0.2406 +10.800
0.2447 +10.910
0.2475 +10.890
0.2503 +10.930
0.2545 +10.920
0.2572 +10.890
0.2611 +10.960
0.2656 +11.040
0.2684 +11.060
0.2715 +11.000

0.2760 +11.010
0.2788 +11.030
0.2816 +11.190
0.2871 +11.160
0.2899 +11.260
0.2941 +11.250
0.2968 +11.370

2436118 +
0.2911 +11.600
0.2932 +11.460
0.2952 +11.430
0.2994 +11.320
0.3015 +11.330
0.3036 +11.350
0.3070 +11.260
0.3091 +11.140
0.3113 +11.090
0.3147 +11.080
0.3168 +11.000
0.3189 +10.950
0.3223 +10.970
0.3244 +10.970
0.3265 +10.910
0.3300 +10.900
0.3320 +10.930
0.3341 +10.870
0.3376 +10.870

0.3397 +10.950
0.3418 +10.970
0.3452 +11.010
0.3473 +11.050
0.3494 +11.050
0.3529 +11.050
0.3550 +11.090
0.3570 +11.130
0.3612 +11.200
0.3633 +11.160
0.3654 +11.130
0.3689 +11.150
0.3709 +11.210
0.3730 +11.160
0.3765 +11.300
0.3786 +11.300
0.3841 +11.240
0.3862 +11.210

2436129 +
0.4087 +11.540
0.4115 +11.490
0.4142 +11.410
0.4170 +11.370
0.4198 +11.250
0.4226 +11.280
0.4253 +11.280
0.4281 +11.260

0.4309 +11.210
0.4337 +11.220
0.4365 +11.220
0.4392 +11.130
0.4420 +11.180
0.4448 +11.210
0.4476 +11.140
0.4503 +11.180
0.4531 +11.130
0.4559 +11.220

2436137 +
0.2813 +12.290
0.2840 +12.240
0.2882 +12.290
0.2910 +12.310
0.2938 +12.370
0.2965 +12.290
0.2993 +12.290
0.3021 +12.270
0.3049 +12.290
0.3076 +12.310
0.3104 +12.290
0.3132 +12.190
0.3160 +12.200
0.3188 +12.240
0.3216 +12.200
0.3243 +12.360

0.3271 +12.320
0.3299 +12.280
0.3326 +12.330
0.3354 +12.270
0.3382 +12.240
0.3410 +12.360
0.3438 +12.210
0.3465 +12.380
0.3493 +12.290
0.3521 +12.370
0.3549 +12.200
0.3576 +12.220
0.3604 +12.270
0.3632 +12.220
0.3660 +12.340
0.3688 +12.280
0.3715 +12.320
0.3743 +12.190
0.3771 +12.150
0.3799 +12.050
0.3826 +11.850
0.3854 +11.710
0.3882 +11.670
0.3910 +11.560
0.3938 +11.440
0.3965 +11.260
0.3993 +10.980
0.4021 +10.810

0.4049 +10.700
0.4076 +10.720
0.4104 +10.700
0.4132 +10.720
0.4160 +10.760

2436165 +
0.2125 +12.250
0.2153 +12.390
0.2181 +12.270
0.2208 +12.280
0.2236 +12.280
0.2264 +12.430
0.2292 +12.360
0.2319 +12.260
0.2347 +12.070
0.2403 +11.760
0.2431 +11.620
0.2458 +11.610
0.2486 +11.520
0.2514 +11.320
0.2542 +11.300
0.2569 +11.270
0.2597 +11.140
0.2625 +11.160
0.2653 +11.130
0.2681 +11.030
0.2708 +11.070

Table 3. Photoelectric differential observations of RW Dra without filter

2435032 +
0.2385 +0.201
0.2408 +0.179
0.2428 +0.110
0.2450 −0.027
0.2462 −0.048
0.2487 −0.139
0.2494 −0.181
0.2520 −0.342
0.2529 −0.385
0.2539 −0.429
0.2548 −0.479
0.2558 −0.531
0.2578 −0.640
0.2588 −0.704
0.2597 −0.762

0.2608 −0.787
0.2616 −0.813
0.2688 −0.975
0.2702 −1.024
0.2714 −0.992
0.2723 −1.001
0.2747 −1.026
0.2756 −1.035
0.2766 −1.045
0.2776 −1.031
0.2784 −1.034
0.2792 −1.035
0.2816 −1.051
0.2825 −1.024
0.2836 −1.029
0.2847 −1.024

0.2858 −1.038
0.2863 −1.017
0.2893 −0.976
0.2905 −0.964
0.2915 −0.969
0.2925 −0.924
0.2934 −0.909
0.2940 −0.922
0.2981 −0.881
0.2993 −0.861
0.3002 −0.853
0.3065 −0.787
0.3077 −0.782
0.3098 −0.743
0.3105 −0.756
0.3130 −0.717

0.3140 −0.731
0.3147 −0.726
0.3156 −0.693
0.3173 −0.670

2435237 +
0.3518 −1.145
0.3525 −1.162
0.3534 −1.205
0.3543 −1.252
0.3548 −1.246
0.3570 −1.285
0.3579 −1.295
0.3587 −1.302
0.3597 −1.303
0.3607 −1.292

0.3632 −1.279
0.3640 −1.300
0.3648 −1.285
0.3658 −1.293
0.3664 −1.290
0.3686 −1.257
0.3697 −1.232
0.3706 −1.219
0.3715 −1.213
0.3722 −1.223
0.3813 −1.119
0.3829 −1.101
0.3847 −1.089
0.3885 −1.036
0.3895 −1.014
0.3906 −1.009

0.3916 −0.988
0.3922 −0.998

2435694 +
0.3622 +0.278
0.3632 +0.265
0.3653 +0.272
0.3661 +0.256
0.3688 +0.258
0.3698 +0.272
0.3709 +0.247
0.3718 +0.276
0.3728 +0.256
0.3738 +0.282
0.3763 +0.262
0.3771 +0.277
0.3779 +0.266
0.3809 +0.264
0.3841 +0.264
0.3852 +0.290
0.3872 +0.291
0.3880 +0.277
0.3888 +0.294
0.3924 +0.318
0.3934 +0.311
0.3944 +0.314
0.3953 +0.325
0.3963 +0.337
0.3992 +0.350
0.4012 +0.361
0.4034 +0.348
0.4073 +0.323
0.4085 +0.331
0.4095 +0.353
0.4112 +0.338
0.4146 +0.305
0.4157 +0.318
0.4168 +0.281
0.4177 +0.278
0.4186 +0.266
0.4194 +0.279
0.4217 +0.263
0.4225 +0.269
0.4233 +0.214
0.4240 +0.212
0.4256 +0.156
0.4277 +0.144

0.4287 +0.113
0.4295 +0.095
0.4302 +0.042
0.4310 +0.049
0.4318 +0.013
0.4351 −0.110
0.4359 −0.128
0.4380 −0.197
0.4389 −0.216
0.4398 −0.236
0.4407 −0.278
0.4429 −0.385
0.4438 −0.440
0.4446 −0.472
0.4457 −0.520
0.4470 −0.587
0.4478 −0.610
0.4509 −0.727
0.4518 −0.760
0.4526 −0.818
0.4534 −0.811
0.4544 −0.825
0.4552 −0.887
0.4575 −0.919
0.4587 −0.918
0.4602 −0.919
0.4617 −0.930
0.4625 −0.940
0.4649 −0.949
0.4658 −0.956
0.4668 −0.949
0.4677 −0.946
0.4686 −0.951
0.4733 −0.942
0.4743 −0.915
0.4752 −0.928
0.4763 −0.931
0.4773 −0.937
0.4784 −0.901
0.4810 −0.898
0.4819 −0.860
0.4827 −0.853
0.4836 −0.889
0.4853 −0.867
0.4890 −0.826
0.4899 −0.808
0.4908 −0.801

0.4918 −0.791
0.4926 −0.798
0.4968 −0.728

2435695 +
0.3269 −0.527
0.3277 −0.532
0.3286 −0.578
0.3295 −0.630
0.3334 −0.753
0.3345 −0.807
0.3354 −0.822
0.3364 −0.837
0.3374 −0.859
0.3383 −0.907
0.3408 −0.937
0.3417 −0.935
0.3425 −0.966
0.3435 −0.952
0.3444 −0.963
0.3454 −0.952
0.3478 −0.951
0.3491 −0.965
0.3501 −0.947
0.3510 −0.954
0.3527 −0.956
0.3560 −0.929
0.3568 −0.934
0.3577 −0.912
0.3586 −0.908
0.3596 −0.916
0.3609 −0.900
0.3636 −0.876
0.3645 −0.871
0.3666 −0.850
0.3676 −0.846
0.3694 −0.851

2435706 +
0.3408 +0.290
0.3428 +0.305
0.3459 +0.257
0.3479 +0.228
0.3496 +0.199
0.3529 +0.135
0.3554 +0.093
0.3578 +0.059

0.3586 +0.018
0.3593 −0.003
0.3602 −0.008
0.3611 −0.081
0.3648 −0.214
0.3660 −0.256
0.3681 −0.340
0.3707 −0.378
0.3716 −0.394
0.3725 −0.405
0.3737 −0.421
0.3748 −0.438
0.3775 −0.494
0.3786 −0.535
0.3796 −0.514
0.3805 −0.562
0.3817 −0.553
0.3847 −0.601
0.3863 −0.612
0.3876 −0.616
0.3897 −0.624
0.3932 −0.660
0.3943 −0.672
0.3956 −0.679
0.3967 −0.660
0.3978 −0.685
0.4045 −0.637
0.4054 −0.646
0.4067 −0.614
0.4077 −0.608
0.4125 −0.609
0.4136 −0.607

2435726 +
0.2970 +0.449
0.2987 +0.438
0.2999 +0.449
0.3009 +0.460
0.3019 +0.448
0.3071 +0.480
0.3082 +0.488
0.3091 +0.503
0.3100 +0.480
0.3109 +0.481
0.3141 +0.463
0.3162 +0.467
0.3173 +0.493

0.3181 +0.487
0.3212 +0.452
0.3220 +0.452
0.3230 +0.441
0.3241 +0.436
0.3259 +0.411
0.3293 +0.379
0.3303 +0.370
0.3313 +0.347
0.3334 +0.309
0.3350 +0.267
0.3388 +0.185
0.3398 +0.155
0.3409 +0.120
0.3419 +0.074
0.3431 +0.065
0.3442 +0.018
0.3478 −0.149
0.3490 −0.184
0.3502 −0.257
0.3513 −0.292
0.3525 −0.363
0.3537 −0.449
0.3568 −0.580
0.3579 −0.616
0.3591 −0.692
0.3602 −0.726
0.3612 −0.768
0.3623 −0.802
0.3659 −0.942
0.3669 −0.960
0.3679 −1.005
0.3690 −1.010
0.3700 −1.037
0.3712 −1.074
0.3746 −1.108
0.3757 −1.128
0.3768 −1.115
0.3780 −1.125
0.3794 −1.146
0.3807 −1.144
0.3854 −1.111
0.3873 −1.103
0.3887 −1.083
0.3900 −1.091
0.3913 −1.076
0.3951 −1.014

0.3962 −0.986 0.4208 −0.721 0.2753 −0.158 0.2988 −0.972 2435742 +
0.3973 −0.984 0.4221 −0.710 0.2783 −0.272 0.3019 −0.988 0.3008 −0.844
0.3984 −0.956 0.4260 −0.670 0.2792 −0.330 0.3029 −1.006 0.3019 −0.832
0.3997 −0.957 0.4274 −0.649 0.2805 −0.361 0.3042 −1.005 0.3032 −0.816
0.4012 −0.930 0.4285 −0.620 0.2818 −0.440 0.3056 −1.010 0.3043 −0.801
0.4051 −0.884 0.4296 −0.602 0.2828 −0.493 0.3067 −1.005 0.3054 −0.803
0.4062 −0.868 0.4306 −0.596 0.2860 −0.633 0.3107 −0.992 0.3083 −0.783
0.4073 −0.853 0.4318 −0.607 0.2872 −0.677 0.3119 −0.997 0.3094 −0.778
0.4088 −0.832 0.4354 −0.566 0.2884 −0.778 0.3130 −0.997 0.3106 −0.766
0.4100 −0.818 0.4374 −0.538 0.2894 −0.812 0.3141 −0.990 0.3120 −0.748
0.4110 −0.827 0.2904 −0.837 0.3152 −0.987 0.3129 −0.729
0.4160 −0.752 2435738 + 0.2942 −0.937 0.3190 −0.981 0.3155 −0.713
0.4173 −0.748 0.2711 +0.057 0.2952 −0.933 0.3201 −0.974
0.4184 −0.717 0.2721 −0.010 0.2963 −0.962 0.3212 −0.946
0.4195 −0.725 0.2731 −0.014 0.2974 −0.953 0.3223 −0.935

Table 4. Photoelectric differential U observations of RW Dra

2438267 + 0.3475 +0.374 0.4114 −0.872 0.4761 −0.954 0.2622 −0.927
0.3725 +0.402 0.3537 +0.063 0.4134 −0.826 0.4782 −1.016 0.2657 −0.886
0.3794 +0.259 0.3593 −0.240 0.4176 −0.764 0.4844 −1.101 0.2733 −0.829
0.3884 +0.036 0.3607 −0.349 0.4197 −0.761 0.4886 −1.122 0.2761 −0.819
0.3964 −0.423 0.3683 −0.943 0.4941 −1.109 0.2830 −0.781
0.4055 −0.818 0.3745 −1.245 2438965 + 0.2865 −0.743
0.4162 −1.151 0.3766 −1.239 0.4379 +0.241 2439056 + 0.2962 −0.641
0.4263 −1.189 0.3850 −1.179 0.4441 +0.108 0.2268 −0.460 0.3032 −0.555
0.4367 −1.024 0.3870 −1.194 0.4518 −0.110 0.2309 −0.729 0.3073 −0.532
0.4457 −0.891 0.3891 −1.193 0.4538 −0.181 0.2379 −0.905 0.3129 −0.527
0.4565 −0.778 0.3961 −1.089 0.4594 −0.423 0.2448 −1.014 0.3164 −0.495
0.3982 −1.039 0.4622 −0.563 0.2476 −1.046 0.3226 −0.448
2438636 + 0.4030 −0.977 0.4670 −0.714 0.2525 −1.068 0.3247 −0.433
0.3412 +0.358 0.4058 −0.936 0.4698 −0.801 0.2552 −1.058 0.3282 −0.383

Table 5. Photoelectric differential B observations of RW Dra

2436318 + 0.5540 −1.095 0.4313 +0.306 0.4816 −0.916 2436373 +
0.4980 +0.513 0.5574 −1.062 0.4337 +0.301 0.4847 −0.959 0.4096 +0.151
0.5008 +0.489 0.5651 −0.998 0.4389 +0.249 0.4877 −0.974 0.4125 +0.109
0.5028 +0.437 0.5686 −0.981 0.4415 +0.202 0.4926 −0.985 0.4161 +0.053
0.5090 +0.242 0.5734 −0.938 0.4439 +0.166 0.4956 −0.995 0.4218 −0.071
0.5151 +0.034 0.5790 −0.895 0.4488 +0.102 0.4982 −0.982 0.4249 −0.139
0.5220 −0.388 0.5824 −0.865 0.4539 +0.002 0.5031 −0.976 0.4280 −0.212
0.5255 −0.630 0.4591 −0.128 0.5058 −0.951 0.4395 −0.516
0.5297 −0.821 2436338 + 0.4617 −0.216 0.5085 −0.941 0.4430 −0.612
0.5373 −1.115 0.4189 +0.382 0.4647 −0.316 0.5135 −0.923 0.4506 −0.814
0.5401 −1.152 0.4216 +0.366 0.4702 −0.514 0.5160 −0.908 0.4555 −0.864
0.5443 −1.156 0.4243 +0.347 0.4732 −0.633 0.5195 −0.881 0.4623 −0.862
0.5512 −1.114 0.4291 +0.328 0.4761 −0.749 0.4687 −0.830

0.4728 −0.807
0.4770 −0.793
0.4839 −0.792
0.4877 −0.761
0.4909 −0.746
0.4968 −0.686
0.4999 −0.650
0.5037 −0.617
0.5093 −0.598
0.5138 −0.582
0.5173 −0.559

2436400 +
0.4304 +0.436
0.4338 +0.443
0.4403 +0.425
0.4431 +0.428
0.4466 +0.412
0.4528 +0.355
0.4593 +0.254
0.4656 −0.098
0.4685 −0.273
0.4712 −0.446
0.4768 −0.804
0.4792 −0.914
0.4811 −0.998
0.4852 −1.128
0.4872 −1.184
0.4900 −1.234
0.4952 −1.245
0.5004 −1.194
0.5067 −1.113
0.5094 −1.076
0.5122 −1.033
0.5178 −0.973
0.5205 −0.954
0.5233 −0.936
0.5289 −0.879
0.5317 −0.856
0.5400 −0.773
0.5428 −0.742
0.5455 −0.717
0.5483 −0.686

2436404 +
0.3908 +0.338
0.3935 +0.345
0.4038 +0.365
0.4071 +0.363
0.4096 +0.336
0.4152 +0.281
0.4180 +0.268
0.4207 +0.248
0.4263 +0.173
0.4291 +0.103
0.4318 +0.028
0.4416 −0.428
0.4437 −0.507
0.4482 −0.664
0.4502 −0.724
0.4523 −0.796
0.4568 −0.944
0.4600 −0.990
0.4624 −1.007
0.4680 −1.045
0.4707 −1.059
0.4735 −1.049
0.4791 −1.033
0.4818 −0.995
0.4846 −0.959
0.4943 −0.899
0.4971 −0.852
0.5027 −0.792
0.5055 −0.769

2436408 +
0.3963 +0.287
0.4018 +0.189
0.4068 +0.067
0.4093 −0.050
0.4116 −0.159
0.4171 −0.421
0.4196 −0.523
0.4224 −0.634
0.4282 −0.784
0.4307 −0.827
0.4400 −0.927
0.4428 −0.947
0.4459 −0.957
0.4520 −0.953
0.4551 −0.929
0.4576 −0.894
0.4622 −0.870
0.4651 −0.868
0.4679 −0.862
0.4744 −0.849
0.4802 −0.818
0.4896 −0.739
0.4918 −0.718

2436420 +
0.3838 +0.142
0.3890 +0.055
0.3941 −0.047
0.3962 −0.105
0.3988 −0.159
0.4040 −0.282
0.4065 −0.350
0.4108 −0.440
0.4153 −0.552
0.4177 −0.600
0.4198 −0.659
0.4241 −0.745
0.4268 −0.807

2436431 +
0.3886 +0.381
0.3914 +0.392
0.3942 +0.395
0.4025 +0.394
0.4053 +0.419
0.4080 +0.425
0.4178 +0.430
0.4205 +0.419
0.4233 +0.414
0.4317 +0.414
0.4344 +0.419
0.4372 +0.424
0.4435 +0.455
0.4462 +0.463
0.4490 +0.487
0.4553 +0.490
0.4580 +0.498
0.4608 +0.484
0.4757 +0.332
0.4784 +0.292
0.4876 +0.095
0.4917 −0.021
0.5052 −0.589
0.5076 −0.728
0.5100 −0.817
0.5132 −0.944
0.5155 −0.992
0.5180 −1.033
0.5209 −1.072
0.5244 −1.097
0.5306 −1.076
0.5332 −1.042
0.5386 −0.974
0.5417 −0.919
0.5445 −0.881

2436447 +
0.3594 +0.339
0.3619 +0.348
0.3642 +0.328
0.3689 +0.343
0.3711 +0.335
0.3737 +0.340
0.3806 +0.270
0.3824 +0.240
0.3868 +0.160
0.3961 −0.210
0.3982 −0.285
0.4048 −0.562
0.4069 −0.605
0.4090 −0.645
0.4137 −0.737
0.4158 −0.766
0.4178 −0.787
0.4218 −0.821
0.4239 −0.862
0.4257 −0.897

2436451 +
0.3833 −0.714
0.3880 −0.786
0.3905 −0.821
0.3928 −0.841
0.3979 −0.900
0.4008 −0.930
0.4039 −0.941
0.4091 −0.950
0.4117 −0.953
0.4142 −0.954
0.4195 −0.943
0.4221 −0.930
0.4247 −0.916
0.4297 −0.883

2436460 +
0.3251 −0.833
0.3279 −0.801
0.3304 −0.735
0.3348 −0.682
0.3372 −0.630
0.3396 −0.609
0.3439 −0.554
0.3465 −0.536
0.3504 −0.485

2436476 +
0.2474 −1.208
0.2510 −1.239
0.2532 −1.245
0.2559 −1.235
0.2610 −1.208
0.2644 −1.182
0.2706 −1.131
0.2732 −1.115
0.2764 −1.086

2436514 +
0.2837 +0.385
0.2855 +0.370
0.2876 +0.369
0.2927 +0.372
0.2968 +0.317
0.3048 +0.142
0.3076 +0.062
0.3121 −0.029
0.3142 −0.070
0.3163 −0.120
0.3229 −0.332
0.3250 −0.412
0.3286 −0.530
0.3304 −0.606
0.3323 −0.675
0.3360 −0.844
0.3378 −0.923
0.3397 −1.006
0.3434 −1.094
0.3452 −1.114
0.3471 −1.101
0.3524 −1.036

2436679 +
0.4898 +0.430
0.4926 +0.434
0.4954 +0.436
0.5009 +0.444
0.5041 +0.460
0.5069 +0.465
0.5124 +0.426
0.5150 +0.411
0.5176 +0.382
0.5232 +0.217
0.5259 +0.106
0.5280 +0.025
0.5332 −0.211
0.5388 −0.531
0.5440 −0.812
0.5461 −0.907
0.5485 −0.989
0.5530 −1.128
0.5550 −1.155
0.5623 −1.194
0.5770 −1.143
0.5803 −1.116
0.5836 −1.082
0.5896 −1.030
0.5923 −0.999

2436695 +
0.3432 +0.305
0.3461 +0.310
0.3565 +0.299
0.3603 +0.307
0.3642 +0.305
0.3721 +0.311
0.3759 +0.302
0.3790 +0.293
0.3860 +0.295
0.3888 +0.293
0.3919 +0.309
0.4013 +0.356
0.4041 +0.353
0.4069 +0.358
0.4124 +0.383
0.4152 +0.379
0.4263 +0.298
0.4319 +0.173
0.4364 +0.035
0.4392 −0.061
0.4416 −0.163
0.4461 −0.334
0.4482 −0.451
0.4506 −0.570
0.4562 −0.790
0.4583 −0.816
0.4603 −0.831
0.4649 −0.904
0.4690 −0.968
0.4735 −1.009
0.4756 −1.025
0.4798 −1.039
0.4840 −1.041
0.4860 −1.038
0.4919 −0.973
0.4940 −0.964
0.4961 −0.937
0.5003 −0.902
0.5044 −0.853
0.5065 −0.818

2436726 +
0.4347 +0.389
0.4400 +0.416
0.4424 +0.423
0.4479 +0.409
0.4507 +0.434
0.4535 +0.433
0.4584 +0.417
0.4604 +0.411
0.4667 +0.286
0.4688 +0.234
0.4749 +0.079
0.4763 +0.043
0.4777 +0.012

2436757 +
0.4305 +0.472
0.4325 +0.467
0.4346 +0.469
0.4430 +0.467
0.4471 +0.481
0.4492 +0.475
0.4513 +0.470
0.4555 +0.481
0.4575 +0.491
0.4596 +0.490
0.4638 +0.472
0.4659 +0.445
0.4680 +0.395
0.4721 +0.295
0.4742 +0.218
0.4763 +0.156
0.4808 −0.004
0.4829 −0.099
0.4850 −0.224
0.4889 −0.445
0.4903 −0.512
0.4917 −0.575
0.4952 −0.715
0.4966 −0.784
0.4979 −0.838
0.5007 −0.942
0.5021 −0.972
0.5035 −1.005
0.5063 −1.038
0.5077 −1.053
0.5091 −1.057
0.5118 −1.068
0.5132 −1.065
0.5146 −1.063
0.5183 −1.060
0.5204 −1.057
0.5225 −1.056
0.5287 −1.018
0.5308 −1.006
0.5343 −0.977
0.5364 −0.960
0.5384 −0.942
0.5426 −0.908

2436761 +
0.4589 +0.378
0.4644 +0.250
0.4668 +0.167
0.4714 −0.014
0.4738 −0.139
0.4762 −0.264
0.4807 −0.487
0.4832 −0.588
0.4856 −0.688
0.4901 −0.864
0.4922 −0.950
0.4943 −1.016
0.4991 −1.144
0.5013 −1.167
0.5038 −1.170
0.5083 −1.149
0.5108 −1.143
0.5131 −1.125
0.5197 −1.073
0.5218 −1.053
0.5245 −1.022
0.5438 −0.838
0.5461 −0.815

2436812 +
0.3782 +0.448
0.3833 +0.425
0.3849 +0.405
0.3894 +0.353
0.3920 +0.310
0.3934 +0.261
0.3977 +0.080
0.3995 −0.004
0.4010 −0.088
0.4049 −0.361
0.4068 −0.478
0.4129 −0.815
0.4154 −0.925
0.4180 −0.991
0.4252 −1.132
0.4270 −1.136
0.4288 −1.151

2437115 +
0.3824 −0.995
0.3841 −0.994
0.3861 −0.985
0.3916 −0.892
0.3931 −0.875
0.3953 −0.851
0.3987 −0.817
0.4007 −0.786
0.4027 −0.757
0.4061 −0.725
0.4085 −0.708
0.4180 −0.626
0.4192 −0.612
0.4207 −0.610
0.4236 −0.585
0.4252 −0.568
0.4267 −0.542
0.4309 −0.510
0.4324 −0.501
0.4342 −0.493
0.4423 −0.442
0.4439 −0.437
0.4523 −0.358
0.4539 −0.350
0.4553 −0.341
0.4603 −0.272
0.4622 −0.263
0.4638 −0.248

2437117 +
0.3740 +0.298
0.3758 +0.293
0.3777 +0.280
0.3816 +0.296
0.3869 +0.295
0.3907 +0.292
0.3925 +0.297
0.3944 +0.308
0.4020 +0.309
0.4038 +0.306
0.4057 +0.315
0.4096 +0.299
0.4110 +0.281
0.4126 +0.282
0.4159 +0.295
0.4203 +0.331
0.4224 +0.341
0.4277 +0.321
0.4295 +0.325
0.4332 +0.328
0.4351 +0.342
0.4370 +0.356
0.4402 +0.358
0.4418 +0.349
0.4437 +0.351
0.4488 +0.343
0.4504 +0.328
0.4541 +0.345
0.4555 +0.347
0.4571 +0.340
0.4626 +0.330

0.4645 +0.316
0.4680 +0.307
0.4694 +0.310
0.4714 +0.309
0.4927 +0.326
0.4944 +0.335
0.4969 +0.361
0.4992 +0.357
0.5006 +0.359
0.5041 +0.405
0.5059 +0.393
0.5073 +0.415
0.5131 +0.435
0.5145 +0.427
0.5200 +0.388
0.5214 +0.372
0.5242 +0.332
0.5256 +0.311
0.5270 +0.295
0.5297 +0.249
0.5308 +0.216
0.5318 +0.189
0.5349 +0.088
0.5361 +0.085

2437134 +
0.3658 +0.365
0.3672 +0.353
0.3686 +0.370
0.3716 +0.345
0.3730 +0.353
0.3744 +0.354
0.3772 +0.335
0.3786 +0.335
0.3800 +0.339
0.3827 +0.357
0.3845 +0.369
0.3859 +0.394
0.3887 +0.408
0.4300 −0.387
0.4341 −0.679
0.4371 −0.825
0.4383 −0.920
0.4390 −0.959
0.4438 −1.091
0.4489 −1.193
0.4508 −1.227
0.4522 −1.249
0.4550 −1.254
0.4563 −1.256
0.4577 −1.262
0.4633 −1.230
0.4647 −1.223
0.4688 −1.197
0.4702 −1.195
0.4769 −1.152
0.4807 −1.125
0.4845 −1.104
0.4866 −1.075
0.4883 −1.056
0.4918 −1.038
0.4934 −1.035
0.5166 −0.846
0.5246 −0.789
0.5267 −0.773
0.5302 −0.749
0.5452 −0.626

2437138 +
0.3554 +0.343
0.3576 +0.331
0.3618 +0.336
0.3637 +0.313
0.3656 +0.291
0.3697 +0.306
0.3729 +0.336
0.3792 +0.369
0.3808 +0.411
0.3831 +0.407
0.3845 +0.362
0.3861 +0.348
0.3889 +0.352
0.3913 +0.347
0.3977 +0.447
0.3991 +0.392
0.4072 −0.048
0.4086 −0.141
0.4116 −0.246
0.4130 −0.307
0.4143 −0.367
0.4181 −0.568
0.4197 −0.638
0.4211 −0.685
0.4255 −0.888
0.4269 −0.953
0.4297 −1.037
0.4311 −1.092
0.4324 −1.127
0.4352 −1.186
0.4366 −1.212
0.4380 −1.230
0.4408 −1.277
0.4422 −1.280
0.4436 −1.285
0.4496 −1.254
0.4510 −1.250
0.4524 −1.233
0.4554 −1.211
0.4567 −1.203
0.4611 −1.188
0.4625 −1.161
0.4639 −1.145
0.4667 −1.113
0.4708 −1.099
0.4739 −1.077
0.4753 −1.044
0.4769 −1.025
0.4802 −0.986
0.4816 −0.978
0.4829 −0.962
0.4857 −0.931
0.4871 −0.909
0.4913 −0.851
0.4927 −0.836
0.4941 −0.832
0.4982 −0.782
0.4996 −0.771
0.5026 −0.748
0.5040 −0.731
0.5054 −0.713
0.5081 −0.703
0.5102 −0.689

2437145 +
0.3589 +0.340
0.3609 +0.338
0.3734 +0.393
0.3762 +0.376
0.3817 +0.402
0.3852 +0.429
0.3880 +0.410
0.3932 +0.370
0.3960 +0.366
0.3984 +0.374
0.4043 +0.352
0.4064 +0.344
0.4092 +0.316
0.4150 +0.300
0.4175 +0.318
0.4330 +0.308
0.4346 +0.323
0.4367 +0.329
0.4408 +0.343
0.4423 +0.382
0.4501 +0.395
0.4522 +0.416
0.4543 +0.403
0.4580 +0.395
0.4594 +0.388
0.4610 +0.375
0.4652 +0.296
0.4673 +0.257
0.4686 +0.240
0.4735 +0.154
0.4756 +0.116
0.4774 +0.042
0.4823 −0.104
0.4837 −0.153
0.4851 −0.224
0.4904 −0.472
0.4918 −0.530
0.4934 −0.593
0.4973 −0.760
0.5004 −0.868
0.5064 −0.973
0.5082 −0.997
0.5103 −1.002
0.5156 −1.008
0.5177 −1.013
0.5198 −0.996
0.5256 −0.984
0.5277 −0.954
0.5321 −0.922
0.5411 −0.810
0.5430 −0.787
0.5446 −0.760
0.5487 −0.713

2437149 +
0.3800 +0.329
0.3814 +0.323
0.3835 +0.350
0.3924 +0.362
0.3939 +0.348
0.3953 +0.370
0.3994 +0.376
0.4008 +0.397
0.4057 +0.423
0.4071 +0.416
0.4085 +0.421
0.4124 +0.414
0.4159 +0.407
0.4177 +0.407
0.4221 +0.384
0.4235 +0.382
0.4284 +0.392
0.4316 +0.369
0.4330 +0.346
0.4367 +0.303
0.4418 +0.189
0.4439 +0.131
0.4501 −0.049
0.4522 −0.154
0.4550 −0.267
0.4594 −0.436
0.4615 −0.517
0.4680 −0.716
0.4717 −0.829
0.4731 −0.852
0.4744 −0.866
0.4777 −0.895
0.4791 −0.898
0.4805 −0.913
0.4844 −0.927
0.4858 −0.929
0.4872 −0.919
0.4904 −0.913
0.4918 −0.908
0.4932 −0.903
0.4976 −0.874
0.4992 −0.873
0.5008 −0.867
0.5041 −0.850
0.5059 −0.846
0.5075 −0.834

0.5115 −0.785
0.5133 −0.774
0.5150 −0.767
0.5193 −0.735
0.5210 −0.709
0.5224 −0.694
0.5256 −0.688
0.5274 −0.668
0.5293 −0.639

2437173 +
0.3420 +0.358
0.3440 +0.379
0.3488 +0.411
0.3506 +0.418
0.3525 +0.416
0.3568 +0.406
0.3586 +0.412
0.3602 +0.424
0.3647 +0.422
0.3668 +0.417
0.3731 +0.389
0.3772 +0.345
0.3816 +0.279
0.3838 +0.248
0.3857 +0.187
0.3929 −0.008
0.3948 −0.062
0.3985 −0.206
0.4005 −0.290
0.4024 −0.383
0.4071 −0.603
0.4090 −0.695
0.4104 −0.740
0.4134 −0.905
0.4149 −0.971
0.4162 −1.010
0.4191 −1.092
0.4223 −1.144
0.4255 −1.156
0.4269 −1.158
0.4282 −1.161
0.4310 −1.151
0.4326 −1.142
0.4353 −1.138
0.4389 −1.115
0.4403 −1.100
0.4417 −1.084
0.4457 −1.034
0.4524 −0.964
0.4546 −0.943
0.4563 −0.929
0.4600 −0.892
0.4625 −0.872
0.4642 −0.850
0.4680 −0.812
0.4698 −0.784

2437175 +
0.3235 −0.189
0.3256 −0.185
0.3277 −0.165
0.3314 −0.111
0.3337 −0.103
0.3358 −0.092
0.3401 −0.079
0.3425 −0.061
0.3448 −0.034
0.3497 −0.008
0.3518 −0.007
0.3594 +0.027
0.3613 +0.046
0.3638 +0.049
0.3690 +0.088
0.3711 +0.096
0.3843 +0.193
0.3864 +0.221
0.3885 +0.246
0.3923 +0.267
0.3944 +0.296
0.3964 +0.296

2437467 +
0.4666 +0.510
0.4707 +0.509
0.4728 +0.487
0.4773 +0.448
0.4794 +0.440
0.4815 +0.410
0.4878 +0.328
0.4898 +0.282
0.4940 +0.156
0.4968 +0.053
0.4998 −0.047
0.5012 −0.092
0.5026 −0.150
0.5060 −0.350
0.5074 −0.412
0.5088 −0.486
0.5137 −0.678
0.5151 −0.745
0.5190 −0.901
0.5204 −0.963
0.5232 −1.051
0.5246 −1.084
0.5259 −1.134
0.5287 −1.210
0.5301 −1.225
0.5315 −1.244
0.5343 −1.281
0.5357 −1.310
0.5371 −1.321
0.5412 −1.316
0.5426 −1.314
0.5454 −1.286

2437468 +
0.3887 −0.106
0.3932 −0.384
0.3946 −0.456
0.3981 −0.672
0.3995 −0.763
0.4009 −0.818
0.4057 −1.003
0.4071 −1.045
0.4113 −1.123
0.4141 −1.173
0.4161 −1.197
0.4175 −1.212
0.4189 −1.212
0.4217 −1.242
0.4231 −1.251
0.4245 −1.257
0.4273 −1.255
0.4300 −1.245
0.4328 −1.229
0.4349 −1.209
0.4418 −1.144
0.4746 −0.784
0.4802 −0.709

2437480 +
0.3857 −0.904
0.3874 −0.909
0.3893 −0.887
0.3950 −0.871
0.3982 −0.840
0.4000 −0.836
0.4046 −0.769
0.4063 −0.760
0.4084 −0.744
0.4119 −0.726
0.4143 −0.700

2437483 +
0.4420 −1.114
0.4437 −1.127
0.4467 −1.120
0.4483 −1.123
0.4499 −1.121
0.4531 −1.113
0.4574 −1.090
0.4608 −1.055
0.4624 −1.031
0.4641 −1.003
0.4678 −0.986
0.4698 −0.942
0.4719 −0.922

2437487 +
0.3748 +0.241
0.3768 +0.158
0.3806 +0.057
0.3819 +0.023
0.3833 −0.026
0.3870 −0.153
0.3882 −0.224
0.3891 −0.248
0.3921 −0.390
0.3947 −0.505
0.3970 −0.583
0.3981 −0.613
0.4014 −0.674
0.4023 −0.700
0.4060 −0.789
0.4074 −0.805
0.4088 −0.840
0.4123 −0.861
0.4136 −0.872
0.4164 −0.902
0.4178 −0.911
0.4190 −0.912
0.4218 −0.941
0.4229 −0.949
0.4280 −0.961
0.4294 −0.966
0.4306 −0.969
0.4331 −0.974
0.4343 −0.970

2437490 +
0.4210 +0.296
0.4226 +0.293
0.4242 +0.285
0.4273 +0.298
0.4294 +0.304
0.4310 +0.318
0.4359 +0.335
0.4372 +0.336
0.4393 +0.370
0.4430 +0.373
0.4446 +0.367
0.4509 +0.370
0.4523 +0.369
0.4641 +0.348
0.4694 +0.276
0.4708 +0.257
0.4722 +0.245
0.4759 +0.198
0.4789 +0.162
0.4828 +0.086
0.4842 +0.064
0.4856 +0.016
0.4893 −0.124
0.4914 −0.196
0.4933 −0.265
0.4974 −0.463
0.4990 −0.505
0.5004 −0.555
0.5035 −0.643
0.5046 −0.683
0.5060 −0.708
0.5090 −0.741
0.5125 −0.788
0.5155 −0.826

0.5185 −0.848
0.5222 −0.880
0.5236 −0.888
0.5250 −0.911
0.5308 −0.941
0.5322 −0.926
0.5338 −0.932
0.5370 −0.941
0.5379 −0.944
0.5389 −0.919
0.5416 −0.938
0.5446 −0.933
0.5465 −0.908

2437494 +
0.4605 +0.355
0.4619 +0.308
0.4771 +0.120
0.4826 +0.027
0.4840 +0.010
0.4854 −0.026
0.4896 −0.085
0.4938 −0.228
0.4969 −0.342
0.4986 −0.388
0.5000 −0.430
0.5038 −0.633
0.5048 −0.668
0.5060 −0.721
0.5124 −0.852
0.5136 −0.859
0.5150 −0.893
0.5183 −0.920
0.5198 −0.917
0.5211 −0.922
0.5234 −0.921
0.5278 −0.935
0.5325 −0.929
0.5339 −0.934
0.5372 −0.927
0.5386 −0.937
0.5399 −0.926
0.5445 −0.891
0.5490 −0.855

2437840 +
0.4261 +0.297
0.4275 +0.302
0.4289 +0.293
0.4324 +0.254
0.4338 +0.217
0.4384 +0.061
0.4398 +0.013
0.4412 −0.043
0.4444 −0.167
0.4458 −0.240
0.4472 −0.354
0.4507 −0.552
0.4521 −0.665
0.4534 −0.747
0.4569 −0.888
0.4583 −0.951
0.4597 −0.995
0.4625 −1.068
0.4639 −1.092
0.4653 −1.101
0.4680 −1.116
0.4696 −1.146
0.4710 −1.182
0.4748 −1.266
0.4761 −1.284
0.4775 −1.296
0.4805 −1.311
0.4819 −1.305

2437851 +
0.4679 +0.490
0.4692 +0.482
0.4706 +0.463
0.4741 +0.424
0.4755 +0.391
0.4769 +0.343
0.4804 +0.253
0.4817 +0.240
0.4866 +0.138
0.4880 +0.104
0.4956 −0.109
0.4970 −0.147
0.4984 −0.227
0.5012 −0.388
0.5026 −0.489
0.5040 −0.612
0.5067 −0.781
0.5081 −0.832
0.5095 −0.910
0.5123 −1.025
0.5137 −1.068
0.5151 −1.112
0.5178 −1.182
0.5192 −1.205
0.5206 −1.216
0.5241 −1.250
0.5255 −1.260
0.5269 −1.258
0.5304 −1.243
0.5317 −1.235
0.5373 −1.191
0.5387 −1.166
0.5401 −1.149
0.5436 −1.112

2437852 +
0.3706 +0.172
0.3719 +0.126
0.3733 +0.102
0.3773 −0.002
0.3789 −0.073
0.3803 −0.178
0.3844 −0.381
0.3858 −0.458
0.3879 −0.594
0.3907 −0.703
0.3921 −0.750
0.4018 −0.990
0.4067 −1.036
0.4080 −1.044
0.4094 −1.042
0.4122 −1.048
0.4157 −1.027
0.4185 −1.012
0.4199 −1.002
0.4219 −1.000
0.4261 −0.966
0.4303 −0.931
0.4317 −0.924
0.4330 −0.912
0.4358 −0.901
0.4379 −0.866
0.4393 −0.849
0.4428 −0.812

2437856 +
0.3748 −0.863
0.3766 −0.893
0.3787 −0.909
0.3827 −0.936
0.3851 −0.953
0.3872 −0.943
0.3912 −0.942
0.3932 −0.941
0.3959 −0.923
0.4219 −0.652

2437867 +
0.4200 +0.148
0.4221 +0.113
0.4242 +0.084
0.4311 −0.063
0.4325 −0.111
0.4339 −0.131
0.4360 −0.187
0.4402 −0.289
0.4422 −0.341
0.4443 −0.385
0.4513 −0.578
0.4534 −0.631
0.4554 −0.688
0.4575 −0.727
0.4624 −0.767
0.4666 −0.804
0.4686 −0.812
0.4763 −0.839
0.4784 −0.834

2437871 +
0.3640 +0.191
0.3655 +0.191
0.3691 +0.193
0.3707 +0.193
0.3725 +0.191
0.3767 +0.194
0.3784 +0.181
0.3799 +0.179
0.3847 +0.174
0.3866 +0.175
0.3885 +0.176
0.3928 +0.200
0.3953 +0.190
0.3970 +0.185
0.4009 +0.181
0.4029 +0.177
0.4048 +0.170
0.4085 +0.191
0.4104 +0.204
0.4161 +0.160
0.4186 +0.128
0.4201 +0.099
0.4239 +0.046
0.4256 +0.027
0.4272 +0.000
0.4304 −0.038
0.4319 −0.050
0.4338 −0.081
0.4370 −0.138
0.4410 −0.252
0.4451 −0.364
0.4467 −0.414
0.4486 −0.490
0.4518 −0.576
0.4534 −0.637
0.4548 −0.670
0.4583 −0.766
0.4601 −0.798
0.4619 −0.818
0.4653 −0.849
0.4668 −0.868
0.4686 −0.883
0.4722 −0.891
0.4740 −0.896
0.4756 −0.904
0.4794 −0.889
0.4813 −0.873
0.4831 −0.871
0.4870 −0.839
0.4892 −0.830
0.4910 −0.828
0.4948 −0.804

2437883 +
0.3665 +0.312
0.3684 +0.300
0.3735 +0.305
0.3751 +0.306
0.3767 +0.305
0.3804 +0.300

0.3838 +0.280
0.3872 +0.255
0.3888 +0.226
0.3904 +0.219
0.3943 +0.185
0.3962 +0.145
0.3981 +0.128
0.4016 +0.067
0.4032 +0.023
0.4051 −0.023
0.4090 −0.152
0.4109 −0.204
0.4124 −0.244
0.4158 −0.354
0.4176 −0.418
0.4194 −0.495
0.4226 −0.668
0.4241 −0.715
0.4255 −0.749
0.4286 −0.854
0.4301 −0.895
0.4316 −0.931
0.4367 −1.032
0.4384 −1.067
0.4416 −1.110
0.4436 −1.126
0.4453 −1.144
0.4488 −1.149
0.4506 −1.141
0.4523 −1.130
0.4560 −1.100
0.4578 −1.082
0.4594 −1.071
0.4629 −1.031
0.4648 −1.021
0.4665 −1.006

2438236 +
0.3653 −0.198
0.3667 −0.233
0.3722 −0.355
0.3736 −0.393
0.3771 −0.480
0.3785 −0.514
0.3806 −0.550
0.3840 −0.589
0.3861 −0.621
0.3875 −0.658
0.3908 −0.701
0.3922 −0.716
0.3950 −0.735
0.3992 −0.780
0.4020 −0.813
0.4041 −0.827
0.4076 −0.848
0.4097 −0.850
0.4118 −0.852
0.4146 −0.859
0.4174 −0.852
0.4188 −0.846
0.4222 −0.850
0.4243 −0.838
0.4257 −0.826
0.4299 −0.809
0.4319 −0.802
0.4333 −0.795
0.4375 −0.767
0.4389 −0.750
0.4403 −0.740
0.4444 −0.711
0.4465 −0.695
0.4479 −0.684
0.4528 −0.664
0.4542 −0.656
0.4576 −0.642
0.4597 −0.630
0.4618 −0.605
0.4674 −0.567
0.4688 −0.556
0.4702 −0.549
0.4730 −0.516
0.4744 −0.505

2438248 +
0.3431 +0.279
0.3451 +0.277
0.3528 +0.240
0.3563 +0.223
0.3597 +0.183
0.3653 +0.134
0.3681 +0.106
0.3708 +0.043
0.3778 −0.151
0.3806 −0.269
0.3847 −0.414
0.3903 −0.611
0.3971 −0.806
0.4034 −0.894
0.4069 −0.902
0.4104 −0.896
0.4181 −0.847
0.4222 −0.816
0.4313 −0.686

2438264 +
0.3064 −0.495
0.3078 −0.539
0.3119 −0.739

2438267 +
0.3579 +0.439
0.3652 +0.379
0.3732 +0.262
0.3746 +0.248
0.3805 +0.128
0.3829 +0.044
0.3843 −0.008
0.3905 −0.191
0.3923 −0.274
0.3971 −0.546
0.3989 −0.660
0.4009 −0.754
0.4065 −1.019
0.4082 −1.062
0.4107 −1.100
0.4173 −1.166
0.4190 −1.173
0.4218 −1.176
0.4374 −1.089
0.4398 −1.066
0.4412 −1.054
0.4464 −1.018
0.4482 −1.009
0.4499 −0.981
0.4572 −0.927
0.4596 −0.919
0.4628 −0.870

2438284 +
0.2692 −1.026
0.2708 −1.034
0.2725 −1.014
0.2791 −1.005
0.2810 −1.012
0.2844 −0.993
0.2863 −0.966
0.2876 −0.974
0.2910 −0.939
0.2924 −0.948
0.2940 −0.940
0.2971 −0.935
0.2983 −0.926
0.2995 −0.880
0.3032 −0.860
0.3043 −0.836
0.3055 −0.819
0.3081 −0.806
0.3092 −0.805
0.3105 −0.802
0.3133 −0.776
0.3145 −0.767
0.3156 −0.746
0.3185 −0.706
0.3196 −0.714
0.3208 −0.689
0.3238 −0.669
0.3250 −0.657
0.3262 −0.635
0.3294 −0.634
0.3305 −0.610
0.3318 −0.573
0.3538 −0.358
0.3559 −0.375
0.3681 −0.233
0.3695 −0.209

2438585 +
0.4341 +0.092
0.4369 −0.022
0.4402 −0.146
0.4416 −0.201
0.4453 −0.409
0.4467 −0.462
0.4507 −0.676
0.4524 −0.759
0.4561 −0.923
0.4578 −0.993
0.4608 −1.056
0.4642 −1.130
0.4685 −1.199
0.4713 −1.235
0.4734 −1.243
0.4768 −1.239
0.4782 −1.233
0.4817 −1.214
0.4831 −1.208
0.4866 −1.186
0.4886 −1.169
0.4928 −1.125
0.4956 −1.076
0.4970 −1.059
0.4998 −1.035
0.5011 −1.016

2438605 +
0.3403 −0.759
0.3432 −0.801
0.3447 −0.831
0.3479 −0.870
0.3494 −0.872
0.3532 −0.866
0.3553 −0.862
0.3592 −0.837
0.3615 −0.832
0.3648 −0.862
0.3669 −0.868
0.3723 −0.810
0.3747 −0.773
0.3780 −0.731

2438608 +
0.4014 +0.242
0.4066 +0.171
0.4097 +0.117
0.4201 −0.090
0.4257 −0.237
0.4288 −0.317
0.4351 −0.526
0.4372 −0.572
0.4424 −0.652
0.4451 −0.672
0.4507 −0.721
0.4545 −0.764
0.4604 −0.777
0.4639 −0.777

0.4729 −0.764
0.4753 −0.760
0.4812 −0.704
0.4840 −0.671
0.4913 −0.586
0.4944 −0.546
0.5073 −0.391
0.5101 −0.344

2438621 +
0.3224 −0.459
0.3332 −0.780
0.3342 −0.803
0.3356 −0.835
0.3370 −0.865
0.3405 −0.923
0.3464 −0.993
0.3474 −0.998
0.3498 −1.031
0.3523 −1.029
0.3537 −1.028
0.3561 −1.024
0.3575 −1.008
0.3603 −0.978
0.3613 −0.961
0.3627 −0.945
0.3655 −0.926
0.3669 −0.897
0.3683 −0.890
0.3710 −0.868
0.3724 −0.836
0.3752 −0.805
0.3773 −0.787
0.3787 −0.773
0.3818 −0.748
0.3835 −0.723
0.3884 −0.705
0.3898 −0.698
0.3946 −0.664
0.3995 −0.633
0.4085 −0.595
0.4099 −0.580

2438636 +
0.3405 +0.306
0.3468 +0.297
0.3523 +0.009
0.3586 −0.385
0.3614 −0.589
0.3704 −1.168
0.3752 −1.290
0.3773 −1.305
0.3843 −1.279
0.3864 −1.267
0.3884 −1.267
0.3905 −1.255
0.3954 −1.221
0.3975 −1.204
0.4023 −1.160
0.4051 −1.132
0.4107 −1.063
0.4127 −1.041
0.4190 −0.992

2438655 +
0.3685 +0.309
0.3698 +0.294
0.3747 +0.257
0.3768 +0.261
0.3810 +0.254
0.3942 +0.088
0.3955 +0.058
0.3990 −0.068
0.4004 −0.166
0.4046 −0.380
0.4087 −0.608
0.4101 −0.646
0.4136 −0.751
0.4150 −0.785
0.4178 −0.864
0.4192 −0.879
0.4219 −0.932
0.4233 −0.942
0.4268 −0.942
0.4282 −0.944
0.4310 −0.929
0.4323 −0.931
0.4351 −0.929
0.4365 −0.912
0.4400 −0.878
0.4414 −0.856
0.4448 −0.812
0.4462 −0.807

2438664 +
0.2536 +0.362
0.2553 +0.353
0.2607 +0.348
0.2641 +0.283
0.2702 +0.170
0.2723 +0.117
0.2771 −0.017
0.2795 −0.066
0.2844 −0.238
0.2865 −0.345
0.2913 −0.590
0.2938 −0.673
0.2990 −0.805
0.3018 −0.859
0.3070 −0.916
0.3101 −0.950
0.3160 −0.976
0.3237 −0.993
0.3264 −0.991

2438668 +
0.2615 +0.025
0.2688 −0.113
0.2709 −0.155
0.2747 −0.315
0.2768 −0.381
0.2817 −0.602
0.2838 −0.709
0.2886 −0.899
0.2924 −1.011
0.2973 −1.053
0.2994 −1.073
0.3042 −1.090
0.3070 −1.088
0.3278 −0.977
0.3296 −0.958

2438965 +
0.4351 +0.245
0.4427 +0.106
0.4462 +0.030
0.4504 −0.064
0.4531 −0.124
0.4580 −0.302
0.4608 −0.419
0.4663 −0.645
0.4691 −0.752
0.4754 −0.915
0.4775 −0.955
0.4830 −0.993
0.4858 −0.988
0.4927 −0.969
0.4962 −0.949
0.5045 −0.915
0.5108 −0.887
0.5156 −0.854
0.5219 −0.799
0.5240 −0.777
0.5302 −0.701
0.5316 −0.684
0.5344 −0.661
0.5358 −0.634

2438981 +
0.3589 −0.056
0.3603 −0.082
0.3645 −0.174
0.3659 −0.207
0.3672 −0.258
0.3700 −0.332
0.3721 −0.413
0.3749 −0.501
0.3763 −0.556
0.3777 −0.628
0.3811 −0.683
0.3832 −0.689
0.3850 −0.705
0.3895 −0.766
0.3909 −0.778
0.3922 −0.813
0.3964 −0.852
0.3985 −0.865
0.4006 −0.866
0.4040 −0.847
0.4054 −0.839
0.4068 −0.840
0.4110 −0.826
0.4131 −0.821
0.4145 −0.813
0.4179 −0.786
0.4193 −0.771
0.4207 −0.764
0.4270 −0.730
0.4298 −0.710
0.4318 −0.690
0.4360 −0.656
0.4374 −0.652
0.4388 −0.625
0.4436 −0.593
0.4457 −0.567
0.4478 −0.542
0.4506 −0.530
0.4527 −0.514
0.4548 −0.503
0.4589 −0.483
0.4603 −0.458
0.4617 −0.441
0.4659 −0.408
0.4672 −0.408
0.4693 −0.381
0.4728 −0.340
0.4749 −0.313
0.4770 −0.286

2438985 +
0.3670 +0.153
0.3690 +0.067
0.3711 −0.091
0.3760 −0.357
0.3781 −0.445
0.3802 −0.534
0.3843 −0.666
0.3864 −0.724
0.3885 −0.788
0.3920 −0.854
0.3940 −0.873
0.3961 −0.886
0.4017 −0.904
0.4045 −0.896
0.4072 −0.879
0.4107 −0.863
0.4128 −0.859
0.4142 −0.849
0.4190 −0.826
0.4239 −0.789
0.4281 −0.782
0.4315 −0.767
0.4343 −0.746
0.4392 −0.725
0.4426 −0.707

0.4454 −0.681

2438989 +
0.3558 +0.271
0.3579 +0.240
0.3614 +0.091
0.3635 +0.053
0.3656 −0.133
0.3690 −0.255
0.3704 −0.286
0.3725 −0.379
0.3808 −0.638

2438993 +
0.3383 +0.383
0.3411 +0.347
0.3487 +0.242
0.3515 +0.186
0.3598 −0.035
0.3633 −0.188
0.3710 −0.529
0.3751 −0.709
0.3821 −0.923
0.3862 −1.029
0.3966 −1.123
0.4022 −1.098
0.4154 −1.043
0.4210 −1.000
0.4251 −0.956
0.4314 −0.886

2439028 +
0.3038 +0.283
0.3114 +0.271
0.3156 +0.249
0.3260 +0.153
0.3343 +0.004
0.3399 −0.128
0.3426 −0.198
0.3496 −0.393
0.3524 −0.487
0.3593 −0.653
0.3614 −0.689
0.3676 −0.800
0.3711 −0.829
0.3781 −0.836
0.3808 −0.826

0.3878 −0.768
0.3927 −0.726
0.3996 −0.682
0.4031 −0.662

2439056 +
0.2254 −0.421
0.2302 −0.659
0.2372 −0.847
0.2441 −0.959
0.2462 −0.967
0.2518 −0.980
0.2545 −0.977
0.2615 −0.939
0.2643 −0.937
0.2719 −0.905
0.2754 −0.889
0.2823 −0.840
0.2851 −0.817
0.2920 −0.724
0.2948 −0.697
0.3018 −0.659
0.3039 −0.638
0.3066 −0.615
0.3122 −0.560
0.3150 −0.542
0.3212 −0.497
0.3240 −0.470
0.3268 −0.447

2439060 +
0.2238 −0.872
0.2252 −0.889
0.2286 −0.933
0.2307 −0.941
0.2321 −0.954
0.2356 −0.958
0.2376 −0.971
0.2390 −0.983
0.2418 −0.971
0.2439 −0.967
0.2460 −0.952
0.2495 −0.937
0.2508 −0.924
0.2522 −0.921
0.2557 −0.909
0.2585 −0.895

0.2613 −0.882
0.2633 −0.868
0.2654 −0.838
0.2710 −0.799
0.2731 −0.771
0.2918 −0.594
0.2932 −0.578
0.2981 −0.517
0.2995 −0.509
0.3008 −0.501
0.3043 −0.448
0.3057 −0.427
0.3071 −0.420
0.3106 −0.403
0.3120 −0.394

2439064 +
0.1999 −0.347
0.2041 −0.474
0.2110 −0.675
0.2138 −0.746
0.2200 −0.868
0.2228 −0.903
0.2277 −0.946
0.2298 −0.950
0.2346 −0.954
0.2436 −0.910
0.2700 −0.645
0.2805 −0.533
0.2818 −0.519
0.2832 −0.496

2439230 +
0.3858 −0.502
0.3872 −0.478
0.3907 −0.446
0.3921 −0.449
0.3948 −0.430
0.3983 −0.390
0.4025 −0.368
0.4039 −0.358
0.4067 −0.343
0.4087 −0.341
0.4115 −0.312
0.4129 −0.310
0.4157 −0.284

2439260 +
0.4734 −0.783
0.4755 −0.771
0.4769 −0.779
0.4797 −0.758
0.4838 −0.726
0.4859 −0.703
0.4887 −0.702
0.4922 −0.668
0.4943 −0.636
0.4956 −0.636
0.5019 −0.576
0.5061 −0.547
0.5095 −0.491
0.5116 −0.478
0.5137 −0.447
0.5172 −0.444
0.5200 −0.419
0.5213 −0.412
0.5276 −0.390
0.5304 −0.363
0.5325 −0.361
0.5359 −0.319
0.5373 −0.341
0.5387 −0.321
0.5505 −0.233
0.5519 −0.195
0.5540 −0.174
0.5582 −0.156
0.5595 −0.132

2439264 +
0.4073 −0.821
0.4094 −0.840
0.4121 −0.855
0.4135 −0.859
0.4156 −0.874
0.4205 −0.861
0.4218 −0.857
0.4239 −0.863
0.4392 −0.785
0.4462 −0.739
0.4472 −0.744
0.4482 −0.735
0.4507 −0.712
0.4528 −0.720
0.4538 −0.718

0.4566 −0.700
0.4580 −0.669

2439267 +
0.5237 −0.792
0.5265 −0.803
0.5293 −0.802
0.5327 −0.795
0.5355 −0.774
0.5369 −0.762
0.5390 −0.759
0.5432 −0.738
0.5452 −0.724
0.5466 −0.726
0.5557 −0.659
0.5598 −0.612

2439268 +
0.3598 +0.082
0.3612 +0.044
0.3646 −0.054
0.3716 −0.289
0.3751 −0.391
0.3778 −0.479
0.3792 −0.512
0.3806 −0.557
0.3841 −0.647
0.3855 −0.687
0.3869 −0.700
0.3910 −0.732
0.3924 −0.766
0.3945 −0.792
0.3980 −0.832
0.3994 −0.841
0.4008 −0.847
0.4042 −0.842
0.4056 −0.844
0.4070 −0.844
0.4112 −0.829
0.4153 −0.812
0.4209 −0.801
0.4230 −0.789
0.4292 −0.743
0.4313 −0.714
0.4334 −0.703
0.4466 −0.606
0.4480 −0.592

0.4903 −0.288
0.4917 −0.266
0.4931 −0.252
0.4973 −0.252
0.4987 −0.246

2439323 +
0.3321 +0.034
0.3419 −0.128
0.3446 −0.193
0.3467 −0.290
0.3516 −0.498
0.3537 −0.578
0.3551 −0.636
0.3585 −0.701
0.3599 −0.734
0.3638 −0.822
0.3676 −0.882
0.3689 −0.901
0.3724 −0.925
0.3745 −0.921
0.3759 −0.913
0.3800 −0.909
0.3814 −0.925
0.3828 −0.923
0.3877 −0.918
0.3898 −0.903
0.3912 −0.882
0.3946 −0.867
0.3967 −0.864
0.3981 −0.849
0.4044 −0.800
0.4058 −0.786
0.4071 −0.780
0.4259 −0.683
0.4273 −0.673

2439326 +
0.3625 +0.183
0.4584 −0.588
0.4597 −0.651
0.4611 −0.684
0.4639 −0.751
0.4653 −0.781
0.4667 −0.811
0.4702 −0.886
0.4716 −0.907

0.4729 −0.931
0.4757 −0.959
0.4778 −0.976
0.4799 −0.988
0.4834 −1.000
0.4847 −0.996
0.4861 −1.011
0.4896 −1.000
0.4917 −1.002
0.4931 −0.987
0.4959 −0.988
0.4972 −0.977
0.4986 −0.971
0.5021 −0.953
0.5035 −0.933
0.5049 −0.915
0.5132 −0.775
0.5160 −0.731
0.5174 −0.714
0.5188 −0.707

2439346 +
0.3311 −0.255
0.3324 −0.323
0.3338 −0.357
0.3366 −0.470
0.3380 −0.513
0.3394 −0.575
0.3422 −0.665
0.3436 −0.706
0.3449 −0.749
0.3477 −0.809
0.3491 −0.853
0.3505 −0.875
0.3533 −0.918
0.3547 −0.943
0.3561 −0.948
0.3588 −0.957
0.3602 −0.962
0.3616 −0.954
0.3644 −0.931

2439349 +
0.4191 +0.029
0.4212 −0.038
0.4261 −0.220
0.4274 −0.265

0.4288 −0.324
0.4330 −0.487
0.4344 −0.531
0.4372 −0.589
0.4386 −0.630
0.4399 −0.657
0.4427 −0.718
0.4441 −0.737
0.4455 −0.761
0.4483 −0.807
0.4497 −0.820
0.4511 −0.829
0.4538 −0.855
0.4552 −0.861
0.4566 −0.857
0.4594 −0.857
0.4608 −0.860
0.4622 −0.867
0.4649 −0.858
0.4663 −0.853
0.4677 −0.856
0.4712 −0.857
0.4726 −0.847
0.4740 −0.840
0.4774 −0.830
0.4788 −0.822
0.4809 −0.819

2439373 +
0.3072 +0.457
0.3103 +0.443
0.3134 +0.431
0.3148 +0.422
0.3162 +0.418
0.3328 +0.409
0.3342 +0.416
0.3356 +0.422
0.3391 +0.450
0.3405 +0.462
0.3419 +0.470
0.3446 +0.483
0.3460 +0.483
0.3474 +0.479
0.3502 +0.487
0.3516 +0.482
0.3551 +0.524
0.3578 +0.542

0.3592 +0.540
0.3669 +0.538
0.3683 +0.507
0.3738 +0.397
0.3752 +0.376
0.3766 +0.350
0.3794 +0.249
0.3808 +0.209
0.3822 +0.166
0.3849 +0.065
0.3863 −0.010
0.3877 −0.064
0.3905 −0.265
0.3919 −0.337
0.3933 −0.406
0.3974 −0.667
0.3988 −0.712
0.4002 −0.749
0.4023 −0.849
0.4037 −0.890
0.4072 −0.996
0.4099 −1.052
0.4113 −1.087
0.4127 −1.118
0.4155 −1.156
0.4169 −1.178
0.4183 −1.194
0.4210 −1.207
0.4224 −1.208
0.4245 −1.226

2439381 +
0.3042 +0.327
0.3070 +0.332
0.3084 +0.344
0.3097 +0.346
0.3125 +0.332
0.3139 +0.323
0.3153 +0.323
0.3181 +0.320
0.3195 +0.324
0.3209 +0.317
0.3236 +0.322
0.3250 +0.298
0.3264 +0.281
0.3292 +0.243
0.3320 +0.177

0.3347 +0.121
0.3403 +0.024
0.3417 −0.006
0.3459 −0.163
0.3472 −0.210
0.3500 −0.373
0.3514 −0.482
0.3528 −0.564
0.3556 −0.680
0.3570 −0.759
0.3584 −0.795
0.3611 −0.882
0.3625 −0.938
0.3639 −0.985
0.3667 −1.038
0.3681 −1.044
0.3695 −1.053
0.3722 −1.058
0.3736 −1.062
0.3750 −1.074
0.3778 −1.078
0.3792 −1.072
0.3806 −1.060
0.3834 −1.042
0.3847 −1.042
0.3861 −1.033
0.3889 −1.010
0.3903 −1.015
0.3917 −1.003
0.3945 −0.958
0.3958 −0.937
0.3972 −0.920

2439409 +
0.2612 +0.156
0.2633 +0.105
0.2647 +0.071
0.2695 −0.098
0.2779 −0.375
0.2793 −0.429
0.2807 −0.494
0.2848 −0.640
0.2862 −0.692
0.2883 −0.745
0.2925 −0.860
0.2945 −0.887
0.2966 −0.912

0.3008 −0.957
0.3029 −0.977
0.3050 −0.979
0.3084 −0.980
0.3105 −0.971
0.3126 −0.970
0.3161 −0.943
0.3182 −0.934
0.3202 −0.921
0.3244 −0.904
0.3258 −0.889
0.3272 −0.881
0.3307 −0.843
0.3327 −0.818
0.3348 −0.796

2439413 +
0.2493 +0.012
0.2542 −0.178
0.2556 −0.228
0.2611 −0.372
0.2625 −0.410
0.2639 −0.475
0.2674 −0.585
0.2694 −0.649
0.2708 −0.692
0.2764 −0.853
0.2778 −0.892
0.2812 −0.936
0.2840 −0.971
0.2854 −0.998
0.2903 −1.033
0.2941 −1.040

2439507 +
0.6014 −1.170
0.6028 −1.153
0.6042 −1.159
0.6077 −1.128
0.6090 −1.116
0.6104 −1.098
0.6139 −1.065
0.6153 −1.049
0.6174 −1.033
0.6222 −0.995
0.6243 −0.974
0.6257 −0.964
0.6306 −0.915
0.6320 −0.898

2439581 +
0.5425 +0.418
0.5439 +0.404
0.5467 +0.333
0.5481 +0.305
0.5508 +0.252
0.5522 +0.195
0.5550 +0.086
0.5564 −0.024
0.5592 −0.225
0.5606 −0.338
0.5626 −0.500
0.5640 −0.587
0.5661 −0.693
0.5675 −0.756
0.5696 −0.816
0.5710 −0.828
0.5745 −0.985
0.5772 −1.116
0.5786 −1.160
0.5807 −1.190
0.5821 −1.200
0.5856 −1.242
0.5876 −1.244
0.5890 −1.249
0.5911 −1.244
0.5925 −1.241
0.5946 −1.236

2439604 +
0.5171 +0.299
0.5185 +0.311
0.5212 +0.308
0.5226 +0.290
0.5254 +0.297
0.5268 +0.274
0.5296 +0.255
0.5358 +0.238
0.5372 +0.228
0.5400 +0.202
0.5414 +0.193
0.5442 +0.164
0.5504 +0.101
0.5546 +0.064
0.5560 +0.032
0.5601 −0.014
0.5650 −0.129
0.5664 −0.175
0.5719 −0.336
0.5733 −0.391
0.5761 −0.506
0.5775 −0.555
0.5803 −0.611
0.5817 −0.643
0.5844 −0.715
0.5858 −0.740
0.5886 −0.784
0.5900 −0.796
0.5942 −0.833
0.5969 −0.846
0.5983 −0.854
0.6011 −0.867
0.6025 −0.861
0.6053 −0.850
0.6067 −0.851
0.6094 −0.842

2439605 +
0.4567 −0.228
0.4608 −0.325
0.4629 −0.386
0.4643 −0.499
0.4657 −0.562
0.4678 −0.634
0.4720 −0.730
0.4740 −0.761
0.4754 −0.788
0.4838 −0.852
0.4851 −0.856
0.4879 −0.867
0.4893 −0.869
0.4928 −0.861
0.4942 −0.852
0.4976 −0.835
0.4997 −0.826
0.5025 −0.807
0.5039 −0.804
0.5074 −0.780
0.5108 −0.763
0.5136 −0.735
0.5150 −0.730
0.5296 −0.630
0.5372 −0.559

2439648 +
0.4309 −0.442
0.4358 −0.697
0.4379 −0.784
0.4400 −0.823
0.4414 −0.853
0.4448 −0.913
0.4462 −0.959
0.4476 −0.971
0.4511 −1.012
0.4525 −1.023
0.4546 −1.031
0.4580 −1.013
0.4601 −1.014
0.4615 −1.032
0.4650 −1.033
0.4664 −1.034
0.4677 −1.029
0.4733 −0.984
0.4761 −0.986
0.4809 −0.919
0.4823 −0.906
0.4844 −0.890
0.4879 −0.859
0.4893 −0.855
0.4955 −0.788
0.4969 −0.761

2439667 +
0.4734 +0.173
0.4748 +0.038
0.4761 −0.072
0.4789 −0.272
0.4803 −0.392
0.4831 −0.649
0.4845 −0.734
0.4873 −0.849
0.4886 −0.919
0.4914 −1.044
0.4956 −1.131
0.4970 −1.160
0.4998 −1.209
0.5011 −1.234
0.5039 −1.261
0.5053 −1.293
0.5081 −1.317
0.5095 −1.314
0.5123 −1.293
0.5136 −1.275
0.5178 −1.234
0.5206 −1.215
0.5220 −1.207
0.5248 −1.188
0.5261 −1.168
0.5289 −1.126
0.5303 −1.103

2439710 +
0.4294 +0.060
0.4328 −0.074
0.4342 −0.174
0.4370 −0.286
0.4384 −0.361
0.4412 −0.500
0.4426 −0.579
0.4453 −0.691
0.4467 −0.737
0.4495 −0.833
0.4509 −0.881
0.4537 −0.938
0.4551 −0.995

2439711 +
0.3412 −1.065
0.3439 −1.072
0.3502 −1.087
0.3516 −1.089
0.3537 −1.092
0.3578 −1.086
0.3592 −1.087
0.3606 −1.076
0.3641 −1.049
0.3676 −1.006
0.3710 −0.986
0.3724 −0.973
0.3738 −0.948
0.3780 −0.903
0.3801 −0.850
0.3814 −0.837

2439714 +
0.4127 −0.454
0.4169 −0.655
0.4196 −0.776
0.4231 −0.889
0.4259 −0.951
0.4287 −1.024
0.4335 −1.111
0.4356 −1.134
0.4377 −1.141
0.4412 −1.146
0.4432 −1.146
0.4446 −1.143
0.4481 −1.111
0.4495 −1.095
0.4509 −1.079
0.4544 −1.042
0.4558 −1.034
0.4571 −1.010
0.4599 −0.981
0.4613 −0.953

2439722 +
0.3717 −0.639
0.3745 −0.710
0.3793 −0.779
0.3807 −0.790
0.3821 −0.809
0.3842 −0.829
0.3863 −0.862
0.3911 −0.927
0.3939 −0.950
0.3967 −0.961
0.4015 −0.974
0.4036 −0.980
0.4050 −0.967
0.4085 −0.903
0.4133 −0.872
0.4154 −0.866
0.4196 −0.877
0.4224 −0.885
0.4245 −0.893
0.4286 −0.867
0.4321 −0.829
0.4349 −0.781
0.4390 −0.719

2439726 +
0.3702 −0.591
0.3716 −0.642
0.3730 −0.703
0.3772 −0.847
0.3786 −0.887
0.3800 −0.917
0.3841 −1.043
0.3855 −1.071
0.3869 −1.095
0.3904 −1.120
0.3918 −1.109
0.3938 −1.092
0.3980 −1.102
0.4022 −1.093
0.4050 −1.093
0.4112 −1.002
0.4154 −0.943
0.4209 −0.839
0.4237 −0.772
0.4258 −0.736
0.4279 −0.703
0.4320 −0.630
0.4348 −0.602

2439738 +
0.3249 +0.379
0.3291 +0.397
0.3305 +0.410
0.3361 +0.359
0.3374 +0.327
0.3465 +0.056
0.3493 −0.031
0.3506 −0.096
0.3555 −0.309
0.3569 −0.394
0.3583 −0.438
0.3618 −0.572
0.3631 −0.639
0.3645 −0.687
0.3673 −0.761
0.3701 −0.844
0.3729 −0.929
0.3749 −0.998
0.3763 −1.035
0.3812 −1.112
0.3833 −1.123
0.3861 −1.134
0.3902 −1.130
0.3923 −1.119
0.3951 −1.086
0.3992 −1.040
0.4006 −1.009
0.4041 −0.977
0.4069 −0.943
0.4083 −0.934

2439923 +
0.4796 −0.944
0.4810 −0.942
0.4852 −0.938
0.4880 −0.933
0.4914 −0.915
0.4942 −0.901
0.4956 −0.897
0.4991 −0.882
0.5005 −0.870
0.5032 −0.849
0.5046 −0.839
0.5074 −0.808
0.5088 −0.804
0.5116 −0.769
0.5130 −0.762
0.5157 −0.748
0.5171 −0.727
0.5199 −0.681
0.5213 −0.660

2439942 +
0.4542 +0.374
0.4556 +0.379
0.4584 +0.365
0.4597 +0.359
0.4625 +0.345
0.4639 +0.330
0.4667 +0.323
0.4681 +0.319
0.4709 +0.333
0.4722 +0.337
0.4750 +0.332
0.4764 +0.325
0.4792 +0.320
0.4806 +0.307
0.4847 +0.335
0.4875 +0.349
0.4889 +0.357
0.4917 +0.320
0.4931 +0.327
0.4959 +0.340
0.4972 +0.324
0.5000 +0.327
0.5014 +0.322
0.5056 +0.336
0.5097 +0.335
0.5125 +0.333
0.5139 +0.313
0.5167 +0.278
0.5181 +0.267
0.5209 +0.246
0.5222 +0.201
0.5250 +0.115
0.5264 +0.056
0.5292 −0.091
0.5306 −0.203
0.5320 −0.254
0.5347 −0.418
0.5361 −0.488
0.5375 −0.567
0.5417 −0.742
0.5431 −0.813
0.5459 −0.923
0.5472 −0.971
0.5486 −1.016
0.5514 −1.110
0.5528 −1.139
0.5542 −1.155
0.5570 −1.182
0.5584 −1.182
0.5597 −1.184
0.5625 −1.179
0.5639 −1.166
0.5653 −1.163
0.5681 −1.148
0.5695 −1.133
0.5709 −1.119
0.5736 −1.102
0.5750 −1.086
0.5764 −1.078

2439978 +
0.3628 +0.277
0.3642 +0.289
0.3669 +0.287
0.3683 +0.272
0.3711 +0.267
0.3725 +0.255
0.3753 +0.206
0.3767 +0.172
0.3794 +0.068
0.3808 +0.050
0.3836 +0.039
0.3850 +0.018
0.3878 −0.021
0.3892 −0.041
0.3933 −0.097
0.3961 −0.142
0.3975 −0.167
0.4003 −0.193
0.4017 −0.221
0.4044 −0.308
0.4058 −0.370
0.4086 −0.472
0.4100 −0.514
0.4128 −0.584
0.4142 −0.615
0.4170 −0.681
0.4183 −0.704
0.4211 −0.742
0.4225 −0.771
0.4253 −0.782
0.4267 −0.787
0.4294 −0.800
0.4308 −0.809
0.4336 −0.808
0.4350 −0.804
0.4378 −0.810
0.4392 −0.800
0.4420 −0.789
0.4433 −0.782
0.4461 −0.776
0.4475 −0.779
0.4503 −0.766
0.4517 −0.750
0.4544 −0.731
0.4558 −0.713
0.4586 −0.693
0.4600 −0.682
0.4628 −0.675

0.4642 −0.650
0.4669 −0.616
0.4683 −0.605

2439985 +
0.4550 +0.286
0.4564 +0.293
0.4592 +0.323
0.4828 +0.244
0.4912 +0.177
0.4967 +0.093
0.5099 −0.238
0.5120 −0.348
0.5148 −0.501
0.5162 −0.536
0.5203 −0.645
0.5217 −0.682
0.5245 −0.789
0.5259 −0.827
0.5287 −0.872
0.5300 −0.905
0.5328 −0.912
0.5342 −0.927
0.5370 −0.946
0.5384 −0.954
0.5412 −0.954
0.5426 −0.949
0.5453 −0.942
0.5467 −0.935
0.5495 −0.898
0.5509 −0.899
0.5537 −0.867
0.5578 −0.846
0.5606 −0.831
0.5620 −0.816
0.5648 −0.776
0.5662 −0.771
0.5689 −0.764
0.5703 −0.752

2439993 +
0.4688 +0.016
0.4702 −0.034
0.4730 −0.191
0.4744 −0.245
0.4772 −0.369
0.4786 −0.427
0.4813 −0.524
0.4827 −0.549
0.4855 −0.641
0.4869 −0.679
0.4897 −0.750
0.4911 −0.771
0.4952 −0.877
0.4980 −0.950
0.5022 −1.026
0.5036 −1.035
0.5084 −1.062
0.5119 −1.053
0.5133 −1.051
0.5161 −1.014
0.5174 −0.993

2440012 +
0.4595 +0.226
0.4630 +0.090
0.4644 +0.054
0.4672 −0.001
0.4686 −0.035
0.4713 −0.128
0.4727 −0.190
0.4762 −0.324
0.4790 −0.413
0.4804 −0.469
0.4831 −0.546
0.4845 −0.614
0.4873 −0.685
0.4887 −0.704
0.4915 −0.753
0.4929 −0.761
0.4956 −0.790
0.4998 −0.833
0.5012 −0.841
0.5040 −0.878
0.5054 −0.875
0.5081 −0.886
0.5095 −0.898
0.5123 −0.908
0.5137 −0.919
0.5165 −0.907
0.5206 −0.898
0.5220 −0.892
0.5248 −0.878
0.5262 −0.875
2440067 +
0.4009 +0.342
0.4023 +0.365
0.4051 +0.348
0.4064 +0.340
0.4092 +0.330
0.4106 +0.302
0.4134 +0.317
0.4148 +0.322
0.4176 +0.289
0.4190 +0.281
0.4217 +0.231
0.4231 +0.212
0.4259 +0.175
0.4273 +0.157
0.4460 −0.427
0.4474 −0.469
0.4502 −0.600
0.4516 −0.638
0.4544 −0.695
0.4558 −0.706
0.4585 −0.710
0.4599 −0.722
0.4627 −0.797
0.4641 −0.844

2440338 +
0.4257 +0.340
0.4270 +0.336
0.4298 +0.309
0.4312 +0.303
0.4340 +0.298
0.4354 +0.279
0.4395 +0.227
0.4437 +0.165
0.4465 +0.115
0.4479 +0.096
0.4507 −0.003
0.4520 −0.024
0.4548 −0.097
0.4562 −0.118
0.4590 −0.182
0.4604 −0.232
0.4632 −0.333
0.4646 −0.393
0.4673 −0.498
0.4687 −0.533
0.4715 −0.640
0.4729 −0.671
0.4757 −0.717
0.4770 −0.720
0.4798 −0.714
0.4812 −0.738
0.4840 −0.767
0.4854 −0.801
0.4882 −0.822
0.4895 −0.823
0.4923 −0.840
0.4937 −0.837
0.4965 −0.839
0.4979 −0.839
0.5007 −0.835
0.5020 −0.831
0.5048 −0.820
0.5062 −0.811
0.5090 −0.802
0.5104 −0.806
0.5132 −0.804
0.5145 −0.798
0.5173 −0.778
0.5187 −0.781
0.5215 −0.764
0.5229 −0.730
0.5257 −0.714
0.5270 −0.702

2440354 +
0.4005 +0.222
0.4019 +0.235
0.4047 +0.211
0.4061 +0.213
0.4089 +0.233
0.4103 +0.229
0.4131 +0.230
0.4145 +0.222
0.4173 +0.228
0.4187 +0.221
0.4214 +0.207
0.4228 +0.197
0.4256 +0.177
0.4270 +0.153
0.4339 +0.051
0.4367 −0.016
0.4381 −0.052
0.4409 −0.156
0.4423 −0.191
0.4492 −0.420
0.4506 −0.471
0.4534 −0.580
0.4548 −0.616
0.4575 −0.689
0.4589 −0.732
0.4617 −0.821
0.4631 −0.866
0.4659 −0.907
0.4673 −0.915
0.4700 −0.918
0.4714 −0.921
0.4742 −0.926
0.4756 −0.936
0.5048 −0.932
0.5062 −0.927

2440357 +
0.4830 +0.335
0.4844 +0.342
0.4872 +0.351
0.4914 +0.343
0.4928 +0.345
0.4955 +0.371
0.4969 +0.385
0.4997 +0.410
0.5011 +0.409
0.5039 +0.409
0.5053 +0.411
0.5080 +0.406
0.5094 +0.395
0.5122 +0.407
0.5136 +0.393
0.5164 +0.389
0.5178 +0.397
0.5219 +0.392
0.5247 +0.371
0.5261 +0.368
0.5289 +0.388
0.5303 +0.377
0.5330 +0.328
0.5463 +0.002
0.5504 −0.088
0.5518 −0.117
0.5546 −0.234

0.5560 −0.290
0.5587 −0.443
0.5601 −0.485

2440389 +
0.4355 −0.975
0.4369 −0.986
0.4390 −1.008
0.4404 −1.027
0.4425 −1.031
0.4439 −1.037
0.4460 −1.042
0.4474 −1.043
0.4494 −1.039
0.4508 −1.037
0.4529 −1.019
0.4564 −0.980
0.4578 −0.971

2440420 +
0.3787 +0.203
0.3814 +0.184
0.3828 +0.159
0.3856 +0.073
0.3870 +0.048
0.3898 −0.002
0.3912 −0.044
0.3939 −0.145
0.3953 −0.209
0.3981 −0.336
0.3995 −0.389
0.4023 −0.454
0.4037 −0.498
0.4064 −0.573
0.4078 −0.610
0.4106 −0.701
0.4120 −0.717
0.4148 −0.757
0.4162 −0.803
0.4189 −0.836
0.4203 −0.838
0.4231 −0.851
0.4245 −0.853
0.4273 −0.854
0.4287 −0.851
0.4314 −0.852
0.4328 −0.849

0.4356 −0.847
0.4370 −0.844
0.4398 −0.838
0.4412 −0.834
0.4439 −0.824
0.4453 −0.812
0.4481 −0.789
0.4495 −0.777
0.4516 −0.748
0.4530 −0.738

2440436 +
0.3412 +0.406
0.3426 +0.403
0.3537 +0.414
0.3551 +0.412
0.3592 +0.371
0.3620 +0.301
0.3634 +0.272
0.3676 +0.225
0.3717 +0.155
0.3759 +0.101
0.3787 −0.009
0.3801 −0.049
0.3828 −0.189
0.3842 −0.272
0.3870 −0.356
0.3884 −0.411
0.3912 −0.537
0.3926 −0.570
0.3953 −0.652
0.3967 −0.689
0.3995 −0.764
0.4009 −0.799
0.4037 −0.841
0.4051 −0.874
0.4078 −0.908
0.4092 −0.930
0.4120 −0.963
0.4134 −0.976
0.4162 −0.969
0.4176 −0.964
0.4203 −0.945
0.4217 −0.931
0.4245 −0.891
0.4259 −0.886
0.4287 −0.874

0.4301 −0.855
0.4328 −0.841
0.4342 −0.833

2440439 +
0.4465 +0.450
0.4479 +0.457
0.4507 +0.434
0.4521 +0.434
0.4549 +0.429
0.4563 +0.432
0.4590 +0.393
0.4632 +0.366
0.4674 +0.340
0.4688 +0.332
0.4715 +0.336
0.4729 +0.326
0.4757 +0.278
0.4771 +0.192
0.4799 +0.092
0.4813 +0.053
0.4840 −0.063
0.4854 −0.157
0.4882 −0.260
0.4896 −0.342
0.4924 −0.444
0.4938 −0.494
0.4965 −0.543
0.4979 −0.584
0.5007 −0.721
0.5021 −0.779
0.5049 −0.851
0.5063 −0.902
0.5111 −0.954
0.5125 −0.954
0.5153 −0.990
0.5167 −1.011
0.5194 −1.023
0.5208 −1.024
0.5236 −1.014
0.5250 −0.994
0.5278 −0.963
0.5292 −0.941
0.5319 −0.919
0.5333 −0.899
0.5361 −0.879
0.5375 −0.874

0.5403 −0.857

2440675 +
0.4954 +0.306
0.4968 +0.281
0.4982 +0.271
0.5010 +0.252
0.5066 +0.220
0.5080 +0.197
0.5094 +0.190
0.5121 +0.144
0.5135 +0.108
0.5149 +0.070
0.5177 +0.003
0.5191 −0.031
0.5205 −0.057
0.5232 −0.103
0.5246 −0.129
0.5260 −0.165
0.5288 −0.310
0.5302 −0.375
0.5316 −0.415
0.5357 −0.571
0.5371 −0.633
0.5399 −0.733
0.5413 −0.767
0.5427 −0.805
0.5454 −0.868
0.5468 −0.895
0.5482 −0.907
0.5510 −0.940
0.5524 −0.967
0.5538 −0.971
0.5566 −0.995
0.5580 −1.001
0.5594 −1.001
0.5621 −0.999
0.5635 −0.991
0.5649 −0.992
0.5677 −0.980
0.5691 −0.974
0.5705 −0.975
0.5732 −0.956
0.5746 −0.947
0.5760 −0.939
0.5788 −0.918
0.5802 −0.908

2440707 +
0.3982 +0.308
0.3996 +0.284
0.4024 +0.219
0.4093 +0.007
0.4107 −0.043
0.4135 −0.114
0.4149 −0.143
0.4176 −0.219
0.4190 −0.266
0.4218 −0.397
0.4232 −0.471
0.4260 −0.552
0.4274 −0.600
0.4301 −0.665
0.4315 −0.705
0.4343 −0.733
0.4385 −0.794
0.4398 −0.804
0.4426 −0.828
0.4468 −0.878
0.4482 −0.888
0.4510 −0.908
0.4524 −0.909
0.4558 −0.911
0.4586 −0.906
0.4600 −0.897
0.4628 −0.869
0.4642 −0.868
0.4669 −0.857

2440769 +
0.4150 +0.398
0.4164 +0.430
0.4192 +0.468
0.4205 +0.464
0.4233 +0.468
0.4247 +0.464
0.4274 +0.461
0.4288 +0.474
0.4316 +0.437
0.4330 +0.384
0.4358 +0.341
0.4372 +0.318
0.4399 +0.308
0.4413 +0.275
0.4441 +0.229

0.4455 +0.233
0.4483 +0.211
0.4497 +0.183
0.4524 +0.099
0.4538 +0.056
0.4566 −0.021
0.4608 −0.153
0.4622 −0.194
0.4649 −0.292
0.4691 −0.486
0.4705 −0.545
0.4747 −0.738
0.4774 −0.812
0.4788 −0.829
0.4816 −0.901
0.4830 −0.931
0.4858 −0.947
0.4872 −0.948
0.4899 −0.968
0.4913 −0.966
0.4941 −0.957
0.4955 −0.956
0.4983 −0.959
0.4997 −0.953
0.5024 −0.941
0.5038 −0.936

2440781 +
0.3932 +0.324
0.3960 +0.309
0.3974 +0.301
0.4002 +0.277
0.4043 +0.212
0.4057 +0.177
0.4084 +0.080
0.4098 +0.025
0.4126 −0.115
0.4140 −0.186
0.4168 −0.334
0.4182 −0.430
0.4210 −0.550
0.4223 −0.597
0.4251 −0.711
0.4265 −0.743
0.4286 −0.787
0.4300 −0.825
0.4328 −0.902

0.4341 −0.942
0.4369 −0.996
0.4383 −1.013
0.4411 −1.012
0.4425 −1.000
0.4453 −0.986
0.4467 −0.985
0.4495 −0.975
0.4509 −0.969
0.4536 −0.975
0.4550 −0.973
0.4578 −0.987
0.4592 −0.984
0.4620 −0.966
0.4634 −0.952
0.4661 −0.918
0.4675 −0.894
0.4703 −0.850
0.4717 −0.842
0.4745 −0.780
0.4759 −0.770

2440796 +
0.4221 −0.007
0.4234 −0.027
0.4262 −0.079
0.4290 −0.154
0.4304 −0.191
0.4332 −0.308
0.4346 −0.334
0.4373 −0.450
0.4387 −0.489
0.4415 −0.566
0.4429 −0.615
0.4457 −0.691
0.4471 −0.750
0.4498 −0.832
0.4512 −0.856

2440807 +
0.5043 +0.357
0.5057 +0.353
0.5084 +0.369
0.5098 +0.378
0.5126 +0.372
0.5140 +0.354
0.5168 +0.349

0.5182 +0.341
0.5209 +0.333
0.5251 +0.302
0.5265 +0.310
0.5293 +0.257
0.5307 +0.255
0.5334 +0.218
0.5348 +0.185
0.5376 +0.016
0.5390 −0.042
0.5418 −0.149
0.5432 −0.182
0.5459 −0.291
0.5473 −0.375
0.5501 −0.510
0.5515 −0.566
0.5543 −0.702
0.5557 −0.756
0.5584 −0.863
0.5598 −0.902
0.5624 −0.925
0.5668 −0.956
0.5682 −0.956
0.5709 −0.940
0.5751 −0.927
0.5793 −0.910

2440859 +
0.3356 +0.428
0.3370 +0.428
0.3426 +0.437
0.3440 +0.431
0.3454 +0.415
0.3481 +0.390
0.3592 +0.247
0.3604 +0.231
0.3618 +0.199
0.3648 +0.106
0.3662 +0.063
0.3676 +0.028
0.3703 −0.029
0.3717 −0.045
0.3731 −0.077
0.3773 −0.229
0.3787 −0.281
0.3814 −0.407
0.3828 −0.464

0.3842 −0.524
0.3877 −0.624
0.3891 −0.677
0.3933 −0.815
0.3947 −0.863
0.3959 −0.896
0.3995 −0.987
0.4009 −1.003
0.4023 −1.036
0.4071 −1.034
0.4085 −1.028
0.4099 −1.012
0.4141 −0.959
0.4155 −0.942
0.4169 −0.937
0.4203 −0.890
0.4217 −0.879

2440867 +
0.3102 +0.307
0.3116 +0.255
0.3165 +0.110
0.3241 −0.136
0.3255 −0.184
0.3304 −0.350
0.3333 −0.457
0.3373 −0.592
0.3387 −0.649
0.3436 −0.788
0.3450 −0.828
0.3498 −0.925
0.3512 −0.960
0.3547 −0.979
0.3568 −0.995
0.3609 −0.977
0.3630 −0.969
0.3693 −0.944
0.3748 −0.899
0.3762 −0.891

2440883 +
0.2550 −0.223
0.2564 −0.232
0.2578 −0.278
0.2605 −0.381
0.2619 −0.410
0.2668 −0.568

0.2682 −0.617
0.2696 −0.652
0.2730 −0.741
0.2744 −0.773
0.2758 −0.806
0.2779 −0.843
0.2793 −0.877
0.2807 −0.906
0.2841 −0.939
0.2855 −0.947
0.2869 −0.944
0.2907 −0.952
0.2921 −0.951
0.2935 −0.951
0.2952 −0.954
0.2966 −0.948
0.2980 −0.945
0.3008 −0.941
0.3022 −0.943
0.3036 −0.931
0.3064 −0.922
0.3078 −0.918

2441035 +
0.5945 +0.403
0.5959 +0.389
0.5969 +0.371
0.5992 +0.373
0.6003 +0.376
0.6015 +0.387
0.6041 +0.370
0.6094 +0.377
0.6106 +0.376
0.6118 +0.338
0.6153 +0.244
0.6180 +0.153
0.6217 +0.061
0.6231 −0.011
0.6245 −0.081
0.6269 −0.232
0.6281 −0.300
0.6296 −0.374
0.6321 −0.553
0.6334 −0.640
0.6347 −0.712
0.6376 −0.881
0.6388 −0.962

0.6401 −1.021
0.6432 −1.103
0.6447 −1.147
0.6460 −1.172

2441060 +
0.3983 +0.386
0.3997 +0.365
0.4023 +0.371
0.4047 +0.338
0.4088 +0.374
0.4100 +0.367
0.4130 +0.425
0.4144 +0.460
0.4179 +0.453
0.4190 +0.469
0.4201 +0.459
0.4237 +0.449
0.4248 +0.474
0.4275 +0.447
0.4288 +0.407
0.4299 +0.392
0.4322 +0.364
0.4374 +0.297
0.4425 +0.270
0.4437 +0.231
0.4450 +0.201
0.4474 +0.173
0.4484 +0.139
0.4503 +0.072
0.4528 +0.011
0.4538 −0.051
0.4548 −0.093
0.4576 −0.188
0.4598 −0.306
0.4625 −0.407
0.4635 −0.442
0.4669 −0.527
0.4681 −0.568
0.4691 −0.600
0.4714 −0.701
0.4724 −0.737
0.4734 −0.770

2441063 +
0.5031 +0.384
0.5042 +0.359
0.5078 +0.343
0.5089 +0.367
0.5115 +0.363
0.5128 +0.365
0.5142 +0.364
0.5168 +0.374
0.5182 +0.360
0.5219 +0.362
0.5232 +0.382
0.5243 +0.362
0.5298 +0.357
0.5311 +0.366
0.5324 +0.352
0.5359 +0.326
0.5371 +0.332
0.5395 +0.317
0.5408 +0.292
0.5420 +0.309
0.5444 +0.265
0.5506 +0.171
0.5542 +0.049
0.5553 −0.030
0.5565 −0.067
0.5604 −0.228
0.5617 −0.275
0.5641 −0.305
0.5652 −0.342
0.5663 −0.412
0.5686 −0.513
0.5698 −0.550
0.5709 −0.624
0.5730 −0.709
0.5741 −0.760
0.5752 −0.820
0.5775 −0.921
0.5786 −0.935
0.5819 −1.025
0.5830 −1.048
0.5867 −1.067
0.5878 −1.074
0.5889 −1.077

2441071 +
0.5156 −0.038
0.5166 −0.096
0.5177 −0.147
0.5200 −0.220
0.5211 −0.236
0.5221 −0.260
0.5242 −0.363
0.5252 −0.399
0.5261 −0.457
0.5288 −0.606
0.5298 −0.653
0.5308 −0.695
0.5340 −0.791
0.5362 −0.844
0.5397 −0.911
0.5408 −0.934
0.5457 −1.015
0.5467 −1.027
0.5502 −1.057
0.5527 −1.078
0.5538 −1.084
0.5564 −1.077
0.5592 −1.068
0.5653 −1.044

2441087 +
0.4114 +0.171
0.4126 +0.135
0.4137 +0.103
0.4179 +0.038
0.4192 +0.000
0.4205 −0.017
0.4229 −0.055
0.4254 −0.112
0.4266 −0.133
0.4278 −0.148
0.4303 −0.232
0.4316 −0.283
0.4328 −0.333
0.4340 −0.380
0.4369 −0.472
0.4393 −0.548
0.4407 −0.572
0.4433 −0.616
0.4453 −0.643
0.4470 −0.660
0.4497 −0.686
0.4520 −0.719
0.4531 −0.724
0.4558 −0.741
0.4571 −0.757
0.4583 −0.761
0.4597 −0.770
0.4621 −0.772
0.4632 −0.774
0.4657 −0.808
0.4681 −0.802
0.4692 −0.815
0.4703 −0.803
0.4715 −0.809
0.4739 −0.814
0.4751 −0.818
0.4763 −0.817
0.4774 −0.813
0.4815 −0.813
0.4840 −0.804
0.4854 −0.805
0.4883 −0.799
0.4897 −0.788
0.4909 −0.778
0.4923 −0.776
0.4950 −0.773
0.4975 −0.741
0.4987 −0.733
0.5013 −0.704
0.5026 −0.700
0.5038 −0.682
0.5049 −0.676

2441094 +
0.5297 +0.197
0.5307 +0.192
0.5317 +0.185
0.5327 +0.164
0.5347 +0.131
0.5360 +0.117
0.5371 +0.094
0.5385 +0.063
0.5396 +0.028
0.5423 −0.038
0.5445 −0.086
0.5457 −0.123
0.5480 −0.219
0.5491 −0.239
0.5511 −0.284
0.5534 −0.388
0.5543 −0.441
0.5554 −0.508
0.5565 −0.561
0.5587 −0.646

2441095 +
0.4170 +0.227
0.4185 +0.194
0.4208 +0.155
0.4232 +0.115
0.4242 +0.096
0.4262 +0.030
0.4284 −0.025
0.4295 −0.067
0.4317 −0.128
0.4328 −0.150
0.4352 −0.230
0.4365 −0.269
0.4376 −0.304
0.4388 −0.361
0.4398 −0.398
0.4423 −0.507
0.4434 −0.537
0.4445 −0.574
0.4458 −0.629
0.4484 −0.697
0.4496 −0.745
0.4631 −0.993
0.4666 −1.017
0.4678 −1.012
0.4688 −1.008
0.4699 −1.013
0.4723 −1.022
0.4735 −1.021
0.4745 −1.023
0.4756 −1.016
0.4779 −1.006
0.4791 −1.004
0.4802 −0.998
0.4814 −0.981
0.4839 −0.958
0.4851 −0.951
0.4865 −0.949
0.4878 −0.939

2441118 +
0.4680 −1.006
0.4694 −1.050
0.4704 −1.090

0.4715 −1.111
0.4735 −1.149
0.4747 −1.181
0.4758 −1.195
0.4770 −1.201
0.4797 −1.211
0.4808 −1.217
0.4819 −1.215
0.4831 −1.207
0.4860 −1.179
0.4876 −1.158
0.4888 −1.131
0.4902 −1.112
0.4927 −1.077
0.4938 −1.063
0.4949 −1.049
0.4960 −1.042
0.4984 −1.010
0.4997 −0.993
0.5011 −0.979
0.5025 −0.969

2441126 +
0.4068 −0.247
0.4082 −0.287
0.4089 −0.322
0.4103 −0.423
0.4137 −0.520
0.4151 −0.529
0.4165 −0.523
0.4179 −0.549
0.4206 −0.626
0.4220 −0.665
0.4234 −0.692
0.4243 −0.721
0.4283 −0.760
0.4297 −0.771
0.4311 −0.789
0.4325 −0.818
0.4345 −0.848
0.4373 −0.876
0.4388 −0.885
0.4470 −0.932
0.4485 −0.934

2441161 +
0.3723 +0.328
0.3734 +0.332
0.3748 +0.341
0.3776 +0.334
0.3801 +0.321
0.3828 +0.321
0.3840 +0.311
0.3852 +0.296
0.3884 +0.270
0.3896 +0.241
0.3909 +0.225
0.3930 +0.207
0.3941 +0.221
0.3953 +0.196
0.3981 +0.109
0.3995 +0.070
0.4008 +0.026
0.4037 −0.050
0.4050 −0.088
0.4063 −0.125
0.4087 −0.221
0.4112 −0.339
0.4134 −0.456
0.4146 −0.508
0.4159 −0.573
0.4195 −0.720
0.4207 −0.767
0.4219 −0.816
0.4256 −0.903
0.4269 −0.918
0.4291 −0.931
0.4305 −0.930
0.4318 −0.933
0.4340 −0.921
0.4356 −0.919
0.4373 −0.910

2441189 +
0.3077 +0.562
0.3091 +0.558
0.3120 +0.520
0.3130 +0.520
0.3141 +0.508
0.3166 +0.467
0.3193 +0.440
0.3208 +0.436
0.3264 +0.379
0.3307 +0.300
0.3321 +0.237
0.3331 +0.165
0.3358 +0.082
0.3370 +0.056
0.3383 +0.007
0.3410 −0.080
0.3423 −0.174
0.3436 −0.275
0.3459 −0.367
0.3471 −0.408
0.3483 −0.470
0.3508 −0.576
0.3521 −0.664
0.3532 −0.704
0.3556 −0.807
0.3569 −0.866
0.3579 −0.900
0.3601 −0.991
0.3611 −1.027
0.3624 −1.051
0.3648 −1.106
0.3661 −1.133
0.3672 −1.157
0.3701 −1.218
0.3714 −1.243
0.3727 −1.262
0.3754 −1.257
0.3766 −1.266
0.3802 −1.248
0.3815 −1.244
0.3829 −1.230
0.3853 −1.221
0.3866 −1.203
0.3877 −1.190
0.3902 −1.169
0.3915 −1.164
0.3927 −1.147
0.3950 −1.127
0.3962 −1.105
0.3978 −1.085

2441529 +
0.4841 +0.033
0.4876 −0.135
0.4917 −0.340
0.4931 −0.396
0.4973 −0.645
0.5001 −0.777
0.5015 −0.826
0.5042 −0.923
0.5056 −0.957
0.5098 −0.982
0.5126 −0.985
0.5140 −0.988
0.5167 −0.976
0.5181 −0.968
0.5209 −0.951
0.5223 −0.931
0.5278 −0.890
0.5306 −0.865
0.5320 −0.854
0.5348 −0.834
0.5362 −0.812

2441537 +
0.4181 +0.377
0.4195 +0.347
0.4222 +0.260
0.4236 +0.211
0.4278 +0.153
0.4306 +0.101
0.4320 +0.047
0.4361 −0.120
0.4389 −0.216
0.4403 −0.257
0.4445 −0.414
0.4472 −0.503
0.4486 −0.554
0.4514 −0.671
0.4528 −0.704
0.4556 −0.778
0.4570 −0.805
0.4597 −0.846
0.4611 −0.858
0.4639 −0.873
0.4653 −0.865
0.4681 −0.879
0.4695 −0.883

2441538 +
0.3347 −0.618
0.3361 −0.644
0.3472 −0.919
0.3486 −0.943
0.3507 −0.982
0.3521 −0.984
0.3556 −1.001
0.3570 −1.002
0.3597 −1.006
0.3611 −1.005
0.3639 −0.990
0.3681 −0.980
0.3694 −0.973
0.3722 −0.966
0.3736 −0.951
0.3764 −0.929
0.3778 −0.904
0.3806 −0.864
0.3820 −0.850
0.3847 −0.827
0.3861 −0.812

2441545 +
0.4039 +0.208
0.4052 +0.197
0.4063 +0.194
0.4082 +0.171
0.4095 +0.176
0.4109 +0.167
0.4143 +0.158
0.4155 +0.100
0.4169 +0.052
0.4197 −0.016
0.4211 −0.038
0.4226 −0.073
0.4253 −0.145
0.4266 −0.191
0.4280 −0.231
0.4307 −0.297
0.4320 −0.330
0.4362 −0.477
0.4377 −0.553
0.4391 −0.607
0.4422 −0.745
0.4436 −0.789
0.4448 −0.837
0.4478 −0.916
0.4492 −0.951
0.4507 −0.976
0.4535 −1.003
0.4548 −1.015

0.4561 −1.015
0.4589 −1.012
0.4602 −1.011
0.4616 −1.000
0.4646 −0.988
0.4661 −0.979
0.4675 −0.968
0.4704 −0.938
0.4719 −0.931
0.4735 −0.918
0.4764 −0.895
0.4778 −0.879
0.4793 −0.871

2441589 +
0.2669 +0.055
0.2683 +0.041
0.2710 +0.007
0.2724 −0.020
0.2752 −0.057
0.2766 −0.077
0.2794 −0.131
0.2808 −0.147
0.2835 −0.187
0.2849 −0.222
0.2877 −0.316
0.2891 −0.360
0.2933 −0.474
0.2960 −0.534
0.2974 −0.567
0.3002 −0.616
0.3016 −0.636
0.3044 −0.682
0.3058 −0.711
0.3085 −0.769
0.3099 −0.794
0.3141 −0.848
0.3169 −0.886
0.3183 −0.889
0.3210 −0.895
0.3224 −0.893
0.3252 −0.893
0.3266 −0.892
0.3294 −0.891
0.3308 −0.881
0.3335 −0.871
0.3349 −0.872
0.3377 −0.852
0.3391 −0.835

2441597 +
0.2641 +0.251
0.2660 +0.166
0.2709 +0.042
0.2727 −0.009
0.2767 −0.151
0.2785 −0.226
0.2802 −0.296
0.2842 −0.486
0.2860 −0.596
0.2876 −0.681
0.2892 −0.717
0.2930 −0.831
0.2947 −0.880
0.2964 −0.886
0.2979 −0.897
0.2996 −0.904
0.3012 −0.932
0.3050 −0.947
0.3067 −0.938
0.3083 −0.958
0.3099 −0.945
0.3116 −0.962
0.3150 −0.953
0.3166 −0.941
0.3182 −0.952
0.3199 −0.941
0.3245 −0.917
0.3261 −0.922

2441605 +
0.2392 +0.053
0.2416 −0.067
0.2443 −0.237
0.2450 −0.301
0.2471 −0.420
0.2481 −0.476
0.2503 −0.589
0.2510 −0.640
0.2531 −0.739
0.2538 −0.759
0.2558 −0.822
0.2568 −0.854
0.2593 −0.939
0.2603 −0.952
0.2628 −0.999
0.2635 −1.015
0.2652 −1.026
0.2659 −1.044
0.2683 −1.067
0.2697 −1.102
0.2718 −1.131
0.2732 −1.146
0.2760 −1.157
0.2770 −1.148
0.2795 −1.150
0.2805 −1.150
0.2829 −1.141
0.2843 −1.134
0.2867 −1.112
0.2877 −1.108
0.2899 −1.093
0.2909 −1.078
0.2940 −1.031
0.2947 −1.017

2441898 +
0.4315 +0.369
0.4373 +0.296
0.4401 +0.240
0.4429 +0.210
0.4456 +0.076
0.4486 −0.096
0.4516 −0.204
0.4548 −0.411
0.4579 −0.580
0.4607 −0.779
0.4635 −0.938
0.4663 −1.031
0.4692 −1.108
0.4719 −1.143
0.4746 −1.159
0.4774 −1.187
0.4802 −1.196
0.4858 −1.178
0.4887 −1.162
0.4917 −1.141
0.4945 −1.108

2441949 +
0.3484 +0.055
0.3513 −0.036
0.3570 −0.220
0.3601 −0.351
0.3633 −0.472
0.3664 −0.618
0.3696 −0.699
0.3735 −0.775
0.3768 −0.806
0.3799 −0.837

2442126 +
0.5298 +0.271
0.5312 +0.224
0.5325 +0.199
0.5337 +0.173
0.5410 +0.020
0.5422 −0.013
0.5434 −0.082
0.5445 −0.118
0.5457 −0.168
0.5513 −0.427
0.5525 −0.469
0.5537 −0.522
0.5548 −0.581
0.5560 −0.648
0.5573 −0.708
0.5585 −0.781
0.5596 −0.817
0.5635 −0.938
0.5647 −0.956
0.5658 −0.984
0.5670 −1.019
0.5680 −1.034
0.5691 −1.039
0.5703 −1.052
0.5714 −1.057
0.5725 −1.066

2442216 +
0.4266 +0.407
0.4281 +0.434
0.4294 +0.442
0.4346 +0.471
0.4355 +0.476
0.4371 +0.486
0.4385 +0.499
0.4437 +0.516
0.4450 +0.505
0.4462 +0.485
0.4476 +0.480
0.4527 +0.450
0.4544 +0.431
0.4559 +0.386
0.4581 +0.357
0.4622 +0.308
0.4635 +0.278
0.4661 +0.234
0.4708 +0.091
0.4723 +0.025
0.4737 −0.032
0.4749 −0.087
0.4803 −0.356
0.4816 −0.432
0.4827 −0.513
0.4840 −0.568
0.4853 −0.626
0.4900 −0.839
0.4913 −0.885
0.4928 −0.939
0.4941 −0.972
0.4956 −1.010
0.4970 −1.014
0.5018 −1.078
0.5034 −1.089
0.5049 −1.097
0.5063 −1.105
0.5076 −1.098
0.5089 −1.101
0.5136 −1.073
0.5149 −1.063
0.5177 −1.032
0.5191 −1.016
0.5256 −0.922
0.5270 −0.916
0.5284 −0.911

2442220 +
0.4523 +0.483
0.4539 +0.442
0.4574 +0.309
0.4591 +0.239
0.4625 +0.083
0.4641 −0.004
0.4677 −0.217

0.4693 −0.296
0.4728 −0.497
0.4735 −0.551
0.4768 −0.754
0.4787 −0.848
0.4818 −0.985
0.4836 −1.035
0.4870 −1.105
0.4886 −1.128
0.4922 −1.158
0.4972 −1.168
0.4987 −1.170
0.5021 −1.152
0.5038 −1.136
0.5077 −1.111
0.5097 −1.105

2442224 +
0.4344 +0.429
0.4359 +0.394
0.4389 +0.293
0.4407 +0.248
0.4442 +0.134
0.4457 +0.072
0.4479 −0.012
0.4493 −0.046
0.4509 −0.122
0.4551 −0.360
0.4572 −0.487
0.4591 −0.589
0.4633 −0.797
0.4664 −0.901
0.4680 −0.936
0.4710 −0.993
0.4726 −1.026
0.4758 −1.072
0.4774 −1.095

0.4808 −1.161
0.4819 −1.163
0.4851 −1.171
0.4886 −1.163
0.4949 −1.134

2442255 +
0.3820 +0.285
0.3879 +0.309
0.3956 +0.344
0.4022 +0.378
0.4083 +0.364
0.4138 +0.340
0.4186 +0.345
0.4228 +0.345
0.4277 +0.319
0.4326 +0.262
0.4426 +0.052
0.4470 −0.105
0.4541 −0.363
0.4599 −0.536
0.4639 −0.638
0.4697 −0.757

2442256 +
0.3459 −0.503
0.3511 −0.696
0.3560 −0.787
0.3618 −0.901

2442275 +
0.3547 +0.297
0.3567 +0.264
0.3582 +0.204
0.3610 +0.093
0.3636 −0.015
0.3658 −0.143

0.3680 −0.344
0.3704 −0.526
0.3730 −0.670
0.3750 −0.786
0.3772 −0.916
0.3795 −1.004
0.3819 −1.089
0.3848 −1.189
0.3862 −1.250
0.3883 −1.284
0.3912 −1.325

2442278 +
0.4482 +0.217
0.4496 +0.170
0.4509 +0.112
0.4524 +0.060
0.4538 −0.061
0.4593 −0.323
0.4607 −0.383
0.4620 −0.479
0.4635 −0.628
0.4648 −0.710
0.4703 −0.926
0.4718 −0.966
0.4732 −0.991
0.4745 −1.012
0.4760 −1.046
0.4811 −1.108
0.4825 −1.128
0.4840 −1.141
0.4854 −1.149
0.4867 −1.150
0.4881 −1.150
0.4947 −1.105

2442299 +
0.2969 +0.174
0.2979 +0.129
0.3009 +0.017
0.3017 −0.008
0.3026 −0.039
0.3055 −0.162
0.3065 −0.215
0.3075 −0.258
0.3085 −0.301
0.3105 −0.405
0.3115 −0.445
0.3125 −0.494
0.3135 −0.562
0.3173 −0.692
0.3184 −0.736
0.3194 −0.768
0.3204 −0.801

2442307 +
0.2698 +0.495
0.2708 +0.458
0.2743 +0.216
0.2754 +0.118
0.2782 +0.001
0.2788 −0.020
0.2812 −0.132
0.2819 −0.178
0.2844 −0.306
0.2879 −0.464
0.2892 −0.526
0.2919 −0.642
0.2929 −0.679
0.2959 −0.771
0.2969 −0.809
0.2999 −0.900
0.3010 −0.925
0.3045 −1.042

0.3055 −1.067
0.3094 −1.108
0.3104 −1.121
0.3142 −1.119
0.3149 −1.114
0.3184 −1.095
0.3237 −1.067
0.3250 −1.063
0.3288 −1.029
0.3337 −0.954

2442454 +
0.6255 +0.290
0.6265 +0.276
0.6278 +0.288
0.6290 +0.295
0.6302 +0.285
0.6359 +0.300
0.6372 +0.295
0.6383 +0.303
0.6394 +0.284
0.6408 +0.294
0.6494 +0.288
0.6508 +0.293
0.6521 +0.273
0.6540 +0.297
0.6549 +0.306
0.6598 +0.289
0.6612 +0.286
0.6630 +0.311
0.6644 +0.313
0.6664 +0.307
0.6713 +0.328
0.6727 +0.299
0.6741 +0.321

Table 6. Photoelectric differential V observations of RW Dra

2436318 +
0.4992 +0.441
0.5018 +0.414
0.5040 +0.405
0.5100 +0.261
0.5130 +0.169
0.5172 +0.010
0.5234 −0.351

0.5276 −0.561
0.5318 −0.755
0.5387 −0.885
0.5429 −0.901
0.5456 −0.881
0.5526 −0.846
0.5561 −0.827
0.5588 −0.831

0.5672 −0.788
0.5713 −0.776
0.5748 −0.735
0.5811 −0.700
0.5845 −0.670

2436338 +
0.4201 +0.293

0.4230 +0.304
0.4255 +0.302
0.4301 +0.267
0.4324 +0.245
0.4349 +0.224
0.4401 +0.205
0.4427 +0.176
0.4500 +0.104

0.4525 +0.060
0.4551 +0.009
0.4603 −0.125
0.4633 −0.213
0.4660 −0.280
0.4715 −0.466
0.4743 −0.535
0.4774 −0.636

0.4832 −0.748
0.4863 −0.753
0.4888 −0.762
0.4942 −0.785
0.4969 −0.776
0.4992 −0.773
0.5045 −0.767
0.5071 −0.745
0.5096 −0.732
0.5173 −0.706
0.5215 −0.686

2436373 +
0.4110 +0.086
0.4144 +0.064
0.4175 +0.019
0.4232 −0.049
0.4263 −0.087
0.4298 −0.149
0.4374 −0.335
0.4412 −0.425
0.4447 −0.498
0.4527 −0.652
0.4638 −0.612
0.4707 −0.589
0.4749 −0.559
0.4791 −0.571
0.4860 −0.574
0.4895 −0.569
0.4923 −0.543
0.4985 −0.474
0.5020 −0.454
0.5048 −0.425
0.5110 −0.381
0.5159 −0.382
0.5190 −0.384

2436400 +
0.4288 +0.373
0.4321 +0.378
0.4352 +0.373
0.4418 +0.360
0.4453 +0.343
0.4483 +0.333
0.4542 +0.289
0.4577 +0.237
0.4607 +0.188
0.4671 −0.111
0.4698 −0.262
0.4726 −0.408
0.4781 −0.657
0.4802 −0.747
0.4820 −0.795
0.4862 −0.876
0.4886 −0.909
0.4914 −0.932
0.4962 −0.944
0.5018 −0.912
0.5080 −0.824
0.5108 −0.793
0.5136 −0.765
0.5192 −0.710
0.5219 −0.690
0.5247 −0.682
0.5303 −0.643
0.5330 −0.607
0.5358 −0.573
0.5414 −0.518
0.5442 −0.497
0.5469 −0.478
0.5504 −0.461

2436404 +
0.3920 +0.336
0.3957 +0.363
0.4056 +0.370
0.4082 +0.359
0.4110 +0.324
0.4166 +0.263
0.4193 +0.248
0.4221 +0.241
0.4277 +0.192
0.4305 +0.149
0.4332 +0.082
0.4402 −0.192
0.4430 −0.285
0.4492 −0.512
0.4513 −0.578
0.4534 −0.602
0.4586 −0.708
0.4610 −0.726
0.4638 −0.746
0.4693 −0.780
0.4721 −0.788
0.4749 −0.775
0.4805 −0.751
0.4832 −0.715
0.4860 −0.682
0.4957 −0.621
0.4985 −0.609
0.5041 −0.535
0.5096 −0.509

2436408 +
0.3977 +0.183
0.4008 +0.137
0.4031 +0.085
0.4080 −0.019
0.4104 −0.089
0.4129 −0.168
0.4182 −0.367
0.4210 −0.459
0.4241 −0.528
0.4293 −0.613
0.4328 −0.682
0.4362 −0.723
0.4443 −0.751
0.4472 −0.758
0.4538 −0.760
0.4563 −0.734
0.4587 −0.693
0.4636 −0.663
0.4665 −0.663
0.4692 −0.659
0.4761 −0.656
0.4814 −0.631
0.4884 −0.604
0.4907 −0.593

2436420 +
0.3855 +0.142
0.3902 +0.078
0.3952 +0.014
0.3976 −0.031
0.4001 −0.090
0.4053 −0.197
0.4095 −0.285
0.4124 −0.334
0.4164 −0.416
0.4187 −0.467
0.4209 −0.509
0.4254 −0.587
0.4280 −0.627

2436431 +
0.3872 +0.322
0.3900 +0.332
0.3928 +0.325
0.4011 +0.312
0.4039 +0.298
0.4067 +0.307
0.4157 +0.320
0.4192 +0.307
0.4219 +0.317
0.4299 +0.353
0.4330 +0.349
0.4358 +0.382
0.4421 +0.455
0.4448 +0.451
0.4476 +0.434
0.4546 +0.463
0.4567 +0.459
0.4594 +0.467
0.4717 +0.370
0.4745 +0.325
0.4772 +0.272
0.4834 +0.132
0.4862 +0.081
0.4900 +0.006
0.5040 −0.434
0.5062 −0.522
0.5087 −0.608
0.5116 −0.704
0.5143 −0.785
0.5167 −0.812
0.5194 −0.843
0.5231 −0.887
0.5264 −0.901
0.5292 −0.868
0.5319 −0.845
0.5344 −0.816
0.5428 −0.653
0.5457 −0.596

2436447 +
0.3583 +0.331
0.3607 +0.336
0.3630 +0.318
0.3654 +0.335
0.3699 +0.280
0.3723 +0.270
0.3833 +0.197
0.3877 +0.113
0.3896 +0.070
0.3924 −0.020
0.3972 −0.207
0.3992 −0.298
0.4013 −0.369
0.4080 −0.586
0.4100 −0.612
0.4148 −0.640
0.4169 −0.641
0.4188 −0.662
0.4228 −0.741
0.4248 −0.782
0.4269 −0.820

2436451 +
0.3822 −0.504
0.3868 −0.576
0.3892 −0.600
0.3917 −0.616
0.3966 −0.664
0.3995 −0.678
0.4025 −0.679
0.4078 −0.695
0.4104 −0.696
0.4130 −0.694
0.4181 −0.684
0.4208 −0.684
0.4234 −0.664
0.4282 −0.634

2436460 +
0.3265 −0.634
0.3292 −0.591
0.3314 −0.557
0.3360 −0.496
0.3384 −0.478
0.3407 −0.468
0.3450 −0.433
0.3481 −0.412
0.3515 −0.403

2436476 +
0.2464 −0.893
0.2501 −0.936
0.2522 −0.944
0.2547 −0.955
0.2592 −0.922
0.2691 −0.872
0.2721 −0.838
0.2747 −0.809

2436514 +
0.2846 +0.372
0.2867 +0.379
0.2889 +0.388
0.2937 +0.357
0.2958 +0.359
0.2979 +0.322
0.3062 +0.166
0.3090 +0.104
0.3132 +0.010
0.3153 −0.053
0.3173 −0.102
0.3218 −0.235
0.3260 −0.379
0.3295 −0.505
0.3313 −0.545
0.3332 −0.600
0.3369 −0.678
0.3388 −0.728
0.3406 −0.783
0.3443 −0.828
0.3462 −0.827
0.3480 −0.804
0.3499 −0.774
0.3533 −0.734

2436679 +
0.4912 +0.461
0.4940 +0.451
0.4968 +0.473
0.5027 +0.480
0.5055 +0.452
0.5082 +0.439
0.5138 +0.404
0.5164 +0.410
0.5190 +0.384
0.5246 +0.220
0.5272 +0.078
0.5292 +0.008
0.5343 −0.242
0.5373 −0.382
0.5402 −0.462
0.5450 −0.639
0.5473 −0.717
0.5497 −0.817
0.5542 −0.901
0.5562 −0.924
0.5632 −0.927
0.5694 −0.895
0.5817 −0.820
0.5854 −0.781
0.5910 −0.715
0.5937 −0.700
0.5963 −0.682

2436695 +
0.3446 +0.243
0.3478 +0.247
0.3513 +0.249
0.3583 +0.263
0.3625 +0.253
0.3663 +0.264
0.3737 +0.258
0.3774 +0.257
0.3808 +0.260
0.3874 +0.254
0.3904 +0.256
0.3930 +0.252
0.4028 +0.341
0.4055 +0.350
0.4083 +0.353
0.4138 +0.363
0.4166 +0.357
0.4194 +0.359
0.4277 +0.272
0.4305 +0.208
0.4333 +0.138
0.4378 +0.035
0.4406 −0.046
0.4426 −0.101
0.4471 −0.256
0.4492 −0.329
0.4520 −0.438
0.4572 −0.593
0.4614 −0.618
0.4659 −0.644
0.4680 −0.664
0.4701 −0.719
0.4746 −0.753
0.4788 −0.760
0.4829 −0.759
0.4871 −0.747
0.4930 −0.693
0.4951 −0.678
0.4971 −0.659
0.5013 −0.634
0.5055 −0.573
0.5076 −0.561

2436726 +
0.4361 +0.417
0.4410 +0.394
0.4434 +0.381
0.4493 +0.375
0.4521 +0.400
0.4549 +0.407
0.4594 +0.419
0.4615 +0.396
0.4698 +0.241
0.4719 +0.198
0.4756 +0.102
0.4770 +0.070

2436757 +
0.4273 +0.455
0.4315 +0.456
0.4336 +0.453
0.4357 +0.463
0.4398 +0.467
0.4440 +0.460
0.4482 +0.461
0.4503 +0.448
0.4523 +0.448
0.4565 +0.459
0.4586 +0.455
0.4607 +0.441
0.4648 +0.411
0.4669 +0.386
0.4690 +0.340
0.4732 +0.236
0.4753 +0.203
0.4773 +0.171
0.4819 −0.009
0.4839 −0.082
0.4896 −0.318
0.4910 −0.397
0.4924 −0.458
0.4959 −0.610
0.4972 −0.669
0.4986 −0.693
0.5014 −0.764
0.5028 −0.782
0.5042 −0.818
0.5070 −0.831
0.5084 −0.853
0.5097 −0.865
0.5125 −0.869
0.5139 −0.853
0.5153 −0.847
0.5194 −0.842
0.5214 −0.834
0.5235 −0.819
0.5277 −0.799
0.5298 −0.784
0.5318 −0.779
0.5353 −0.756
0.5374 −0.738
0.5395 −0.723
0.5437 −0.685

2436761 +
0.4603 +0.351
0.4658 +0.223
0.4679 +0.145
0.4724 −0.019
0.4752 −0.124
0.4773 −0.187
0.4818 −0.384
0.4846 −0.512
0.4866 −0.579
0.4912 −0.735
0.4932 −0.777
0.4957 −0.816
0.5002 −0.880
0.5026 −0.899
0.5049 −0.898
0.5094 −0.888
0.5120 −0.883
0.5180 −0.842
0.5233 −0.797
0.5450 −0.625
0.5473 −0.600

2436812 +
0.3805 +0.410
0.3860 +0.346
0.3910 +0.265
0.3927 +0.216
0.3943 +0.176
0.3987 +0.049
0.4003 +0.013
0.4021 −0.062
0.4058 −0.256
0.4077 −0.337
0.4096 −0.435
0.4138 −0.587
0.4171 −0.716
0.4189 −0.764
0.4260 −0.928
0.4279 −0.944
0.4299 −0.954

2437115 +
0.3833 −0.666
0.3853 −0.651
0.3922 −0.592
0.3940 −0.571
0.3962 −0.555
0.4001 −0.540
0.4020 −0.538
0.4037 −0.521
0.4068 −0.493
0.4098 −0.483
0.4186 −0.436
0.4200 −0.424
0.4213 −0.418
0.4243 −0.385
0.4260 −0.376
0.4275 −0.374
0.4317 −0.334
0.4334 −0.330
0.4368 −0.303
0.4414 −0.282
0.4433 −0.286
0.4447 −0.275

0.4531 −0.205
0.4545 −0.187
0.4561 −0.181
0.4615 −0.148
0.4632 −0.138
0.4645 −0.126

2437117 +
0.3749 +0.214
0.3768 +0.207
0.3786 +0.211
0.3825 +0.231
0.3879 +0.253
0.3916 +0.267
0.3934 +0.263
0.3953 +0.274
0.4029 +0.249
0.4048 +0.232
0.4066 +0.240
0.4103 +0.223
0.4117 +0.214
0.4133 +0.216
0.4168 +0.248
0.4214 +0.263
0.4233 +0.274
0.4270 +0.286
0.4286 +0.281
0.4305 +0.281
0.4342 +0.286
0.4360 +0.281
0.4376 +0.277
0.4409 +0.287
0.4427 +0.296
0.4446 +0.302
0.4494 +0.292
0.4513 +0.300
0.4578 +0.290
0.4617 +0.298
0.4636 +0.288
0.4652 +0.281
0.4687 +0.282
0.4705 +0.296
0.4721 +0.291
0.4918 +0.307
0.4934 +0.312
0.4981 +0.338
0.4999 +0.349

0.5013 +0.350
0.5052 +0.349
0.5066 +0.360
0.5080 +0.379
0.5138 +0.339
0.5152 +0.326
0.5207 +0.314
0.5221 +0.320
0.5249 +0.305
0.5263 +0.298
0.5277 +0.291
0.5302 +0.232
0.5313 +0.225
0.5323 +0.226
0.5344 +0.165
0.5372 +0.114

2437134 +
0.3665 +0.378
0.3679 +0.371
0.3692 +0.370
0.3723 +0.389
0.3737 +0.371
0.3751 +0.357
0.3779 +0.339
0.3793 +0.328
0.3807 +0.326
0.3834 +0.326
0.3852 +0.333
0.3866 +0.352
0.3894 +0.352
0.4334 −0.299
0.4348 −0.425
0.4378 −0.594
0.4387 −0.646
0.4397 −0.682
0.4447 −0.838
0.4463 −0.865
0.4498 −0.927
0.4515 −0.949
0.4529 −0.970
0.4557 −0.983
0.4570 −0.985
0.4584 −0.982
0.4626 −0.953
0.4640 −0.945
0.4654 −0.942

0.4695 −0.916
0.4718 −0.903
0.4737 −0.887
0.4781 −0.860
0.4797 −0.835
0.4820 −0.806
0.4855 −0.781
0.4873 −0.769
0.4890 −0.751
0.4940 −0.723
0.4961 −0.715
0.5145 −0.599
0.5255 −0.537
0.5286 −0.528
0.5315 −0.517
0.5412 −0.460
0.5428 −0.445

2437138 +
0.3565 +0.329
0.3588 +0.356
0.3625 +0.355
0.3646 +0.382
0.3670 +0.371
0.3706 +0.400
0.3722 +0.409
0.3739 +0.424
0.3785 +0.459
0.3799 +0.453
0.3838 +0.360
0.3852 +0.348
0.3868 +0.337
0.3896 +0.367
0.3924 +0.370
0.3984 +0.442
0.3998 +0.385
0.4011 +0.363
0.4065 +0.138
0.4079 +0.068
0.4093 +0.009
0.4123 −0.120
0.4137 −0.191
0.4150 −0.260
0.4190 −0.391
0.4204 −0.442
0.4218 −0.485
0.4262 −0.635

0.4275 −0.666
0.4304 −0.739
0.4317 −0.784
0.4331 −0.814
0.4359 −0.894
0.4373 −0.927
0.4387 −0.952
0.4415 −0.981
0.4429 −0.994
0.4443 −0.993
0.4503 −0.974
0.4517 −0.966
0.4560 −0.956
0.4574 −0.947
0.4588 −0.932
0.4618 −0.897
0.4632 −0.894
0.4646 −0.873
0.4687 −0.850
0.4701 −0.833
0.4715 −0.807
0.4746 −0.772
0.4757 −0.753
0.4809 −0.707
0.4823 −0.686
0.4836 −0.686
0.4864 −0.646
0.4878 −0.625
0.4892 −0.620
0.4934 −0.600
0.4947 −0.581
0.4975 −0.553
0.4989 −0.535
0.5003 −0.539
0.5033 −0.518
0.5047 −0.492
0.5060 −0.492
0.5088 −0.472

2437145 +
0.3596 +0.232
0.3623 +0.257
0.3650 +0.275
0.3720 +0.309
0.3748 +0.307
0.3776 +0.286
0.3838 +0.281

0.3866 +0.297
0.3890 +0.289
0.3974 +0.275
0.3998 +0.264
0.4053 +0.267
0.4074 +0.260
0.4109 +0.236
0.4161 +0.234
0.4189 +0.240
0.4337 +0.252
0.4356 +0.254
0.4379 +0.277
0.4430 +0.292
0.4443 +0.288
0.4510 +0.361
0.4531 +0.368
0.4552 +0.369
0.4587 +0.387
0.4603 +0.378
0.4619 +0.354
0.4661 +0.268
0.4680 +0.229
0.4698 +0.201
0.4744 +0.134
0.4765 +0.089
0.4830 −0.063
0.4844 −0.118
0.4858 −0.166
0.4911 −0.326
0.4925 −0.391
0.4943 −0.434
0.4999 −0.588
0.5018 −0.628
0.5073 −0.720
0.5092 −0.748
0.5112 −0.771
0.5168 −0.788
0.5209 −0.783
0.5247 −0.772
0.5265 −0.745
0.5330 −0.690
0.5348 −0.691
0.5374 −0.653
0.5420 −0.585
0.5436 −0.570
0.5455 −0.571
0.5497 −0.544

2437149 +
0.3807 +0.278
0.3828 +0.278
0.3842 +0.283
0.3931 +0.281
0.3946 +0.277
0.3960 +0.274
0.4001 +0.287
0.4015 +0.295
0.4029 +0.303
0.4064 +0.336
0.4078 +0.350
0.4092 +0.358
0.4133 +0.369
0.4170 +0.402
0.4184 +0.387
0.4214 +0.399
0.4228 +0.395
0.4291 +0.367
0.4323 +0.344
0.4342 +0.320
0.4402 +0.238
0.4427 +0.164
0.4453 +0.076
0.4508 −0.065
0.4536 −0.158
0.4564 −0.225
0.4606 −0.366
0.4631 −0.455
0.4673 −0.566
0.4691 −0.596
0.4724 −0.628
0.4738 −0.626
0.4751 −0.634
0.4784 −0.654
0.4798 −0.654
0.4812 −0.661
0.4851 −0.664
0.4865 −0.662
0.4879 −0.679
0.4911 −0.679
0.4925 −0.670
0.4939 −0.667
0.4985 −0.650
0.4999 −0.661
0.5018 −0.645
0.5050 −0.643
0.5066 −0.635
0.5082 −0.624
0.5126 −0.609
0.5140 −0.604
0.5156 −0.583
0.5203 −0.546
0.5231 −0.526
0.5263 −0.495
0.5284 −0.483
0.5300 −0.462

2437173 +
0.3410 +0.354
0.3429 +0.365
0.3449 +0.381
0.3497 +0.374
0.3514 +0.375
0.3536 +0.383
0.3577 +0.394
0.3600 +0.417
0.3612 +0.429
0.3679 +0.420
0.3699 +0.419
0.3763 +0.367
0.3781 +0.327
0.3848 +0.216
0.3874 +0.173
0.3917 +0.065
0.3939 +0.022
0.3958 −0.021
0.3996 −0.139
0.4014 −0.201
0.4032 −0.288
0.4080 −0.490
0.4098 −0.561
0.4111 −0.619
0.4142 −0.715
0.4156 −0.763
0.4170 −0.808
0.4199 −0.854
0.4231 −0.880
0.4262 −0.884
0.4275 −0.880
0.4289 −0.887
0.4317 −0.876
0.4334 −0.862
0.4362 −0.853
0.4396 −0.823
0.4410 −0.803
0.4428 −0.791
0.4465 −0.767
0.4533 −0.727
0.4555 −0.708
0.4610 −0.657
0.4634 −0.649
0.4650 −0.630
0.4690 −0.620
0.4708 −0.606

2437175 +
0.3244 −0.063
0.3268 −0.029
0.3286 −0.028
0.3328 +0.014
0.3349 +0.031
0.3367 +0.054
0.3413 +0.074
0.3462 +0.105
0.3508 +0.134
0.3529 +0.138
0.3552 +0.161
0.3603 +0.174
0.3626 +0.186
0.3652 +0.191
0.3700 +0.210
0.3721 +0.194
0.3746 +0.227
0.3853 +0.285
0.3874 +0.288
0.3895 +0.306
0.3933 +0.320
0.3975 +0.318

2437467 +
0.4676 +0.463
0.4718 +0.454
0.4739 +0.446
0.4784 +0.423
0.4805 +0.406
0.4825 +0.396
0.4867 +0.368
0.4888 +0.342
0.4909 +0.266
0.4947 +0.154
0.4975 +0.097
0.5005 +0.015
0.5019 −0.040
0.5033 −0.114
0.5067 −0.257
0.5081 −0.303
0.5095 −0.361
0.5130 −0.474
0.5144 −0.521
0.5158 −0.553
0.5183 −0.636
0.5197 −0.688
0.5211 −0.722
0.5239 −0.812
0.5252 −0.832
0.5266 −0.851
0.5294 −0.895
0.5308 −0.909
0.5322 −0.922
0.5350 −0.940
0.5364 −0.943
0.5405 −0.931
0.5419 −0.922
0.5433 −0.918
0.5461 −0.898

2437468 +
0.3901 −0.131
0.3939 −0.306
0.3953 −0.359
0.3988 −0.527
0.4002 −0.586
0.4016 −0.655
0.4078 −0.796
0.4120 −0.868
0.4134 −0.891
0.4156 −0.920
0.4182 −0.950
0.4196 −0.955
0.4224 −0.967
0.4238 −0.968
0.4252 −0.968
0.4280 −0.954
0.4293 −0.941
0.4307 −0.936
0.4366 −0.881
0.4387 −0.865
0.4760 −0.546
0.4813 −0.509

2437480 +
0.3866 −0.570
0.3883 −0.560
0.3911 −0.547
0.3966 −0.530
0.3990 −0.504
0.4018 −0.496
0.4056 −0.451
0.4074 −0.437
0.4131 −0.419
0.4150 −0.410
0.4171 −0.393

2437483 +
0.4429 −0.814
0.4445 −0.830
0.4475 −0.836
0.4491 −0.823
0.4506 −0.802
0.4540 −0.797
0.4581 −0.770
0.4615 −0.742
0.4632 −0.737
0.4649 −0.715
0.4688 −0.705
0.4708 −0.677
0.4729 −0.668

2437487 +
0.3757 +0.232
0.3775 +0.182
0.3812 +0.109
0.3877 −0.079
0.3886 −0.094
0.3896 −0.116
0.3928 −0.225
0.3940 −0.289
0.3951 −0.341
0.3974 −0.412
0.3986 −0.446
0.3995 −0.454
0.4018 −0.499
0.4028 −0.514
0.4039 −0.536

0.4067 −0.577
0.4081 −0.582
0.4095 −0.584
0.4116 −0.584
0.4130 −0.585
0.4143 −0.603
0.4171 −0.633
0.4185 −0.649
0.4197 −0.673
0.4224 −0.713
0.4236 −0.723
0.4252 −0.725
0.4287 −0.728
0.4301 −0.724
0.4310 −0.726
0.4338 −0.724
0.4350 −0.729

2437490 +
0.4218 +0.252
0.4250 +0.252
0.4282 +0.226
0.4302 +0.228
0.4320 +0.248
0.4366 +0.287
0.4384 +0.298
0.4400 +0.294
0.4437 +0.325
0.4456 +0.331
0.4477 +0.342
0.4516 +0.346
0.4532 +0.352
0.4555 +0.350
0.4648 +0.327
0.4660 +0.309
0.4673 +0.295
0.4702 +0.267
0.4715 +0.244
0.4734 +0.236
0.4766 +0.192
0.4780 +0.162
0.4801 +0.118
0.4835 +0.053
0.4849 +0.048
0.4863 +0.024
0.4905 −0.120
0.4923 −0.179

0.4942 −0.269
0.4981 −0.374
0.5011 −0.421
0.5042 −0.455
0.5053 −0.483
0.5065 −0.496
0.5118 −0.553
0.5132 −0.577
0.5162 −0.588
0.5178 −0.607
0.5229 −0.648
0.5243 −0.654
0.5315 −0.673
0.5328 −0.680
0.5345 −0.662
0.5384 −0.649
0.5396 −0.638
0.5421 −0.631
0.5437 −0.633
0.5456 −0.639

2437494 +
0.4612 +0.232
0.4626 +0.252
0.4640 +0.241
0.4764 +0.157
0.4778 +0.133
0.4792 +0.103
0.4833 +0.034
0.4847 +0.016
0.4861 −0.001
0.4931 −0.115
0.4978 −0.254
0.4993 −0.295
0.5007 −0.325
0.5042 −0.426
0.5052 −0.472
0.5070 −0.522
0.5130 −0.628
0.5142 −0.630
0.5156 −0.640
0.5191 −0.664
0.5204 −0.677
0.5215 −0.676
0.5243 −0.677
0.5264 −0.680
0.5285 −0.694

0.5320 −0.695
0.5346 −0.688
0.5379 −0.669
0.5422 −0.663
0.5459 −0.644
0.5498 −0.618

2437840 +
0.4268 +0.231
0.4282 +0.205
0.4296 +0.194
0.4331 +0.161
0.4345 +0.159
0.4359 +0.134
0.4391 +0.071
0.4405 −0.004
0.4419 −0.035
0.4451 −0.148
0.4465 −0.227
0.4479 −0.289
0.4514 −0.452
0.4528 −0.485
0.4541 −0.559
0.4576 −0.696
0.4590 −0.739
0.4604 −0.770
0.4632 −0.794
0.4646 −0.797
0.4660 −0.813
0.4687 −0.849
0.4703 −0.856
0.4717 −0.865
0.4754 −0.901
0.4768 −0.921
0.4782 −0.944
0.4812 −0.958
0.4826 −0.954

2437851 +
0.4686 +0.408
0.4699 +0.385
0.4713 +0.385
0.4748 +0.373
0.4762 +0.361
0.4776 +0.366
0.4810 +0.314
0.4824 +0.280

0.4838 +0.256
0.4873 +0.198
0.4887 +0.143
0.4915 +0.079
0.4963 −0.071
0.4977 −0.141
0.4991 −0.235
0.5019 −0.388
0.5033 −0.419
0.5047 −0.440
0.5074 −0.554
0.5088 −0.627
0.5102 −0.702
0.5130 −0.803
0.5144 −0.839
0.5158 −0.867
0.5185 −0.898
0.5199 −0.907
0.5213 −0.911
0.5248 −0.915
0.5262 −0.916
0.5276 −0.910
0.5310 −0.901
0.5324 −0.887
0.5338 −0.880
0.5394 −0.803
0.5408 −0.782
0.5442 −0.739

2437852 +
0.3712 +0.106
0.3761 +0.011
0.3782 −0.059
0.3796 −0.101
0.3837 −0.263
0.3851 −0.305
0.3865 −0.335
0.3900 −0.424
0.4011 −0.754
0.4025 −0.768
0.4060 −0.803
0.4074 −0.803
0.4087 −0.806
0.4115 −0.830
0.4136 −0.820
0.4178 −0.805
0.4192 −0.795

0.4240 −0.772
0.4254 −0.763
0.4296 −0.704
0.4310 −0.697
0.4324 −0.694
0.4351 −0.659
0.4365 −0.625
0.4386 −0.617
0.4421 −0.576

2437856 +
0.3757 −0.549
0.3775 −0.570
0.3798 −0.612
0.3841 −0.649
0.3860 −0.669
0.3921 −0.670
0.3971 −0.659
0.4032 −0.611
0.4053 −0.589
0.4076 −0.566
0.4207 −0.448

2437867 +
0.4207 +0.095
0.4228 +0.049
0.4249 −0.003
0.4284 −0.065
0.4304 −0.112
0.4332 −0.154
0.4395 −0.283
0.4416 −0.334
0.4436 −0.378
0.4478 −0.457
0.4520 −0.496
0.4540 −0.508
0.4561 −0.520
0.4582 −0.555
0.4617 −0.557
0.4638 −0.554
0.4659 −0.568
0.4679 −0.573
0.4700 −0.571
0.4777 −0.576

2437871 +
0.3633 +0.155

0.3648 +0.146
0.3663 +0.151
0.3700 +0.182
0.3715 +0.179
0.3734 +0.179
0.3776 +0.205
0.3791 +0.196
0.3806 +0.215
0.3857 +0.190
0.3870 +0.203
0.3895 +0.197
0.3961 +0.200
0.3978 +0.192
0.4018 +0.193
0.4039 +0.168
0.4057 +0.153
0.4094 +0.193
0.4111 +0.200
0.4132 +0.197
0.4170 +0.220
0.4194 +0.188
0.4209 +0.171
0.4247 +0.118
0.4263 +0.090
0.4280 +0.086
0.4311 +0.075
0.4328 +0.030
0.4379 −0.046
0.4402 −0.093
0.4419 −0.128
0.4460 −0.203
0.4477 −0.235
0.4494 −0.260
0.4526 −0.332
0.4540 −0.359
0.4557 −0.383
0.4592 −0.451
0.4610 −0.489
0.4628 −0.514
0.4660 −0.543
0.4677 −0.539
0.4695 −0.550
0.4730 −0.581
0.4748 −0.575
0.4765 −0.575
0.4804 −0.565
0.4822 −0.567

0.4839 −0.561
0.4880 −0.550
0.4901 −0.549
0.4919 −0.541
0.4958 −0.519

2437883 +
0.3675 +0.300
0.3693 +0.324
0.3743 +0.318
0.3759 +0.319
0.3776 +0.296
0.3813 +0.281
0.3846 +0.310
0.3880 +0.273
0.3896 +0.267
0.3912 +0.251
0.3952 +0.234
0.3972 +0.213
0.3990 +0.186
0.4023 +0.140
0.4042 +0.108
0.4060 +0.048
0.4099 −0.056
0.4116 −0.115
0.4131 −0.162
0.4166 −0.227
0.4186 −0.285
0.4201 −0.333
0.4233 −0.443
0.4247 −0.468
0.4263 −0.504
0.4293 −0.581
0.4308 −0.624
0.4323 −0.657
0.4357 −0.716
0.4375 −0.735
0.4391 −0.761
0.4427 −0.778
0.4444 −0.783
0.4462 −0.781
0.4497 −0.795
0.4514 −0.796
0.4532 −0.786
0.4568 −0.780
0.4601 −0.759
0.4637 −0.727

0.4656 −0.717
0.4674 −0.714

2437895 +
0.3320 +0.003
0.3337 −0.041
0.3400 −0.284
0.3415 −0.305
0.3431 −0.382
0.3446 −0.421
0.3460 −0.476
0.3476 −0.547
0.3492 −0.584
0.3507 −0.612
0.3522 −0.646
0.3539 −0.669
0.3555 −0.692
0.3575 −0.711
0.3592 −0.713
0.3613 −0.710
0.3638 −0.703
0.3670 −0.702
0.3690 −0.702
0.3708 −0.702
0.3725 −0.713
0.3743 −0.702
0.3758 −0.703
0.3796 −0.713
0.3815 −0.705
0.3835 −0.695

2437903 +
0.2987 −0.207
0.2992 −0.229
0.3004 −0.317
0.3010 −0.341
0.3017 −0.376
0.3031 −0.408
0.3036 −0.417
0.3042 −0.426
0.3059 −0.455
0.3072 −0.471
0.3077 −0.451
0.3095 −0.470
0.3101 −0.485
0.3117 −0.518
0.3123 −0.536

0.3140 −0.572
0.3146 −0.599
0.3158 −0.634
0.3165 −0.641
0.3180 −0.636
0.3186 −0.642
0.3199 −0.657
0.3215 −0.643
0.3230 −0.655
0.3235 −0.668
0.3250 −0.678
0.3256 −0.684
0.3270 −0.688
0.3293 −0.677
0.3300 −0.679
0.3315 −0.678
0.3320 −0.679
0.3334 −0.684
0.3340 −0.667
0.3355 −0.660
0.3362 −0.647
0.3376 −0.651
0.3382 −0.652
0.3397 −0.647
0.3404 −0.635
0.3418 −0.631
0.3425 −0.641

2438163 +
0.3372 +0.000
0.3409 −0.175
0.3438 −0.309
0.3453 −0.379
0.3474 −0.452
0.3490 −0.489
0.3674 −0.593
0.3689 −0.594
0.3733 −0.593
0.3751 −0.587
0.3770 −0.586
0.3785 −0.573
0.3801 −0.577
0.3820 −0.562
0.3835 −0.562

2438236 +
0.3660 −0.033

0.3674 −0.062
0.3715 −0.127
0.3729 −0.178
0.3743 −0.209
0.3778 −0.263
0.3799 −0.299
0.3813 −0.341
0.3854 −0.411
0.3868 −0.422
0.3882 −0.428
0.3915 −0.466
0.3936 −0.485
0.3957 −0.504
0.4013 −0.537
0.4048 −0.560
0.4083 −0.581
0.4111 −0.595
0.4125 −0.597
0.4153 −0.602
0.4181 −0.603
0.4194 −0.601
0.4229 −0.586
0.4250 −0.581
0.4264 −0.580
0.4306 −0.568
0.4326 −0.566
0.4347 −0.543
0.4382 −0.533
0.4396 −0.529
0.4458 −0.488
0.4472 −0.481
0.4486 −0.474
0.4521 −0.441
0.4535 −0.431
0.4549 −0.425
0.4590 −0.411
0.4611 −0.397
0.4632 −0.394
0.4681 −0.362
0.4695 −0.351
0.4709 −0.342
0.4737 −0.323
0.4751 −0.309

2438248 +
0.3438 +0.239
0.3465 +0.247

0.3549 +0.180
0.3583 +0.155
0.3639 +0.129
0.3667 +0.102
0.3694 +0.080
0.3764 −0.034
0.3819 −0.159
0.3958 −0.504
0.4020 −0.639
0.4055 −0.673
0.4090 −0.678
0.4160 −0.676
0.4201 −0.649
0.4243 −0.627
0.4327 −0.559

2438264 +
0.3071 −0.365
0.3085 −0.385
0.3126 −0.555

2438267 +
0.3662 +0.362
0.3683 +0.328
0.3739 +0.281
0.3752 +0.268
0.3815 +0.103
0.3836 +0.056
0.3850 +0.026
0.3916 −0.151
0.3930 −0.198
0.3982 −0.420
0.4020 −0.571
0.4075 −0.754
0.4100 −0.817
0.4121 −0.825
0.4183 −0.857
0.4225 −0.848
0.4284 −0.841
0.4312 −0.820
0.4325 −0.790
0.4384 −0.743
0.4423 −0.716
0.4471 −0.659
0.4489 −0.641
0.4516 −0.635
0.4582 −0.577
0.4607 −0.535
0.4638 −0.519

2438284 +
0.2702 −0.696
0.2717 −0.693
0.2741 −0.695
0.2801 −0.691
0.2819 −0.691
0.2856 −0.688
0.2869 −0.689
0.2883 −0.689
0.2917 −0.682
0.2932 −0.676
0.2950 −0.663
0.2977 −0.669
0.2989 −0.668
0.3003 −0.636
0.3038 −0.612
0.3050 −0.617
0.3062 −0.608
0.3086 −0.587
0.3098 −0.584
0.3111 −0.582
0.3139 −0.558
0.3151 −0.543
0.3163 −0.532
0.3191 −0.509
0.3202 −0.521
0.3215 −0.500
0.3243 −0.478
0.3256 −0.461
0.3268 −0.456
0.3299 −0.423
0.3312 −0.403
0.3324 −0.390
0.3545 −0.237
0.3566 −0.237
0.3688 −0.142
0.3709 −0.135

2438291 +
0.3166 +0.429
0.3173 +0.407
0.3179 +0.389
0.3221 +0.329
0.3227 +0.290
0.3236 +0.293
0.3300 +0.203
0.3308 +0.194
0.3315 +0.196
0.3336 +0.158
0.3346 +0.107
0.3367 +0.040
0.3389 −0.004
0.3398 −0.017
0.3408 −0.040
0.3429 −0.097
0.3440 −0.184
0.3452 −0.242
0.3471 −0.343
0.3478 −0.380
0.3492 −0.409
0.3520 −0.487
0.3527 −0.515
0.3534 −0.561
0.3551 −0.645
0.3561 −0.694
0.3565 −0.707
0.3579 −0.718
0.3586 −0.729
0.3593 −0.754
0.3624 −0.797
0.3627 −0.798
0.3671 −0.838
0.3679 −0.841
0.3697 −0.853
0.3728 −0.867
0.3752 −0.877
0.3762 −0.881
0.3772 −0.873
0.3793 −0.869
0.3804 −0.869
0.3811 −0.870
0.3836 −0.880
0.3841 −0.884
0.3853 −0.864
0.3877 −0.857
0.3895 −0.860
0.3915 −0.855
0.3926 −0.851
0.3933 −0.843
0.3985 −0.807
0.3992 −0.793
0.4065 −0.701
0.4072 −0.698
0.4092 −0.672
0.4100 −0.646
0.4120 −0.613
0.4131 −0.613
0.4138 −0.591
0.4158 −0.593
0.4165 −0.590
0.4183 −0.549
0.4190 −0.527
0.4197 −0.512

2438585 +
0.4350 +0.025
0.4378 −0.043
0.4409 −0.138
0.4425 −0.191
0.4460 −0.342
0.4474 −0.386
0.4512 −0.540
0.4541 −0.598
0.4570 −0.667
0.4585 −0.695
0.4615 −0.734
0.4647 −0.766
0.4678 −0.813
0.4692 −0.832
0.4727 −0.893
0.4740 −0.900
0.4775 −0.900
0.4789 −0.900
0.4824 −0.892
0.4838 −0.880
0.4872 −0.858
0.4893 −0.850
0.4921 −0.829
0.4935 −0.817
0.4963 −0.791
0.4977 −0.788
0.5004 −0.779
0.5018 −0.764

2438605 +
0.3397 −0.520
0.3424 −0.590
0.3439 −0.626
0.3470 −0.649
0.3487 −0.664
0.3524 −0.642
0.3546 −0.630
0.3584 −0.610
0.3605 −0.627
0.3640 −0.660
0.3660 −0.623
0.3705 −0.575
0.3733 −0.559
0.3771 −0.515
0.3792 −0.497

2438608 +
0.4024 +0.127
0.4076 +0.096
0.4104 +0.080
0.4184 −0.015
0.4208 −0.071
0.4271 −0.300
0.4306 −0.390
0.4358 −0.467
0.4430 −0.518
0.4458 −0.515
0.4521 −0.518
0.4555 −0.530
0.4615 −0.543
0.4656 −0.534
0.4736 −0.512
0.4760 −0.513
0.4924 −0.452
0.4958 −0.429
0.5087 −0.345
0.5111 −0.349

2438621 +
0.3235 −0.355
0.3335 −0.503
0.3349 −0.535
0.3363 −0.558
0.3374 −0.574
0.3460 −0.687
0.3467 −0.676
0.3495 −0.704
0.3516 −0.700
0.3530 −0.728
0.3554 −0.723

0.3568 −0.716
0.3596 −0.673
0.3610 −0.664
0.3620 −0.677
0.3648 −0.624
0.3662 −0.629
0.3676 −0.609
0.3703 −0.593
0.3766 −0.541
0.3780 −0.535
0.3811 −0.529
0.3828 −0.511
0.3877 −0.467
0.3926 −0.449
0.3940 −0.451
0.3967 −0.420
0.3981 −0.414
0.4023 −0.410
0.4037 −0.411
0.4078 −0.380

2438636 +
0.3398 +0.288
0.3461 +0.311
0.3509 +0.166
0.3572 −0.154
0.3627 −0.448
0.3711 −0.880
0.3759 −0.953
0.3780 −0.957
0.3836 −0.935
0.3857 −0.923
0.3877 −0.913
0.3898 −0.906
0.3947 −0.884
0.3968 −0.847
0.4016 −0.820
0.4044 −0.798
0.4120 −0.747
0.4183 −0.712

2438655 +
0.3692 +0.220
0.3712 +0.217
0.3754 +0.224
0.3775 +0.237
0.3816 +0.210
0.3921 +0.130
0.3948 +0.083
0.3962 +0.045
0.3997 −0.078
0.4025 −0.180
0.4053 −0.313
0.4094 −0.440
0.4143 −0.569
0.4157 −0.580
0.4185 −0.591
0.4198 −0.612
0.4226 −0.624
0.4275 −0.661
0.4289 −0.657
0.4316 −0.669
0.4330 −0.654
0.4358 −0.651
0.4455 −0.640
0.4469 −0.635

2438664 +
0.2544 +0.388
0.2599 +0.348
0.2631 +0.294
0.2709 +0.205
0.2729 +0.153
0.2782 +0.049
0.2851 −0.142
0.2872 −0.205
0.2924 −0.339
0.2945 −0.384
0.2997 −0.528
0.3028 −0.596
0.3084 −0.673
0.3108 −0.716
0.3167 −0.754
0.3195 −0.773
0.3247 −0.800
0.3275 −0.788

2438668 +
0.2608 +0.120
0.2636 +0.085
0.2695 +0.029
0.2716 −0.020
0.2754 −0.178
0.2775 −0.237
0.2824 −0.415
0.2844 −0.502
0.2900 −0.660
0.2935 −0.745
0.2980 −0.794
0.3001 −0.791
0.3053 −0.802
0.3081 −0.801
0.3285 −0.724
0.3303 −0.716

2438965 +
0.4344 +0.329
0.4386 +0.272
0.4406 +0.208
0.4448 +0.112
0.4497 +0.012
0.4524 −0.049
0.4573 −0.199
0.4601 −0.267
0.4656 −0.457
0.4684 −0.520
0.4747 −0.609
0.4768 −0.626
0.4823 −0.700
0.4851 −0.712
0.4920 −0.705
0.4955 −0.694
0.5011 −0.684
0.5038 −0.676
0.5101 −0.638
0.5143 −0.594
0.5226 −0.524
0.5254 −0.515
0.5282 −0.500
0.5295 −0.490
0.5309 −0.473
0.5337 −0.460
0.5351 −0.442

2438981 +
0.3575 −0.001
0.3596 −0.016
0.3610 −0.042
0.3638 −0.092
0.3652 −0.125
0.3666 −0.171
0.3679 −0.196
0.3707 −0.254
0.3714 −0.260
0.3756 −0.357
0.3770 −0.377
0.3784 −0.396
0.3825 −0.442
0.3839 −0.455
0.3856 −0.478
0.3902 −0.521
0.3916 −0.536
0.3936 −0.553
0.3999 −0.564
0.4013 −0.564
0.4047 −0.558
0.4061 −0.555
0.4082 −0.557
0.4117 −0.573
0.4138 −0.577
0.4152 −0.591
0.4186 −0.588
0.4200 −0.583
0.4221 −0.569
0.4284 −0.547
0.4304 −0.540
0.4350 −0.516
0.4381 −0.486
0.4395 −0.493
0.4450 −0.481
0.4485 −0.451
0.4520 −0.425
0.4534 −0.405
0.4561 −0.389
0.4596 −0.343
0.4610 −0.334
0.4624 −0.324
0.4666 −0.293
0.4679 −0.257
0.4700 −0.235
0.4742 −0.217
0.4763 −0.211
0.4777 −0.199

2438985 +
0.3684 +0.049
0.3704 −0.045
0.3725 −0.109
0.3767 −0.255
0.3788 −0.309
0.3808 −0.376
0.3850 −0.502
0.3871 −0.554
0.3892 −0.586
0.3934 −0.645
0.3954 −0.666
0.3975 −0.679
0.4031 −0.701
0.4058 −0.696
0.4086 −0.689
0.4121 −0.677
0.4135 −0.671
0.4156 −0.654
0.4232 −0.595
0.4246 −0.586
0.4329 −0.530
0.4357 −0.514
0.4406 −0.501
0.4440 −0.477
0.4468 −0.449

2438989 +
0.3552 +0.323
0.3572 +0.271
0.3593 +0.208
0.3642 +0.089
0.3663 +0.069
0.3697 −0.038
0.3711 −0.121
0.3732 −0.228
0.3822 −0.511

2438993 +
0.3397 +0.296
0.3501 +0.214
0.3529 +0.148
0.3612 −0.054
0.3647 −0.152
0.3723 −0.462
0.3765 −0.594
0.3834 −0.723
0.3869 −0.750
0.3939 −0.801
0.3980 −0.798
0.4029 −0.797

0.4071 −0.800
0.4133 −0.775
0.4161 −0.737
0.4223 −0.700
0.4265 −0.671
0.4321 −0.633

2439028 +
0.3017 +0.237
0.3052 +0.239
0.3128 +0.204
0.3170 +0.157
0.3246 +0.082
0.3267 +0.049
0.3350 −0.039
0.3406 −0.136
0.3440 −0.224
0.3503 −0.341
0.3531 −0.393
0.3600 −0.501
0.3628 −0.550
0.3683 −0.592
0.3718 −0.618
0.3788 −0.627
0.3822 −0.607
0.3899 −0.557
0.3934 −0.534
0.4003 −0.504
0.4038 −0.480

2439056 +
0.2247 −0.290
0.2296 −0.422
0.2386 −0.599
0.2434 −0.667
0.2455 −0.673
0.2511 −0.724
0.2532 −0.730
0.2601 −0.710
0.2636 −0.703
0.2705 −0.677
0.2740 −0.651
0.2809 −0.641
0.2844 −0.633
0.2914 −0.584
0.2941 −0.574
0.3011 −0.539

0.3052 −0.465
0.3115 −0.402
0.3136 −0.372
0.3205 −0.339
0.3233 −0.310
0.3261 −0.265

2439060 +
0.2231 −0.580
0.2245 −0.590
0.2279 −0.632
0.2293 −0.647
0.2314 −0.650
0.2349 −0.665
0.2370 −0.665
0.2383 −0.674
0.2411 −0.678
0.2432 −0.676
0.2446 −0.674
0.2488 −0.659
0.2502 −0.655
0.2515 −0.642
0.2550 −0.630
0.2564 −0.619
0.2578 −0.610
0.2606 −0.587
0.2626 −0.585
0.2682 −0.547
0.2703 −0.532
0.2717 −0.520
0.2911 −0.375
0.2925 −0.373
0.2946 −0.347
0.2974 −0.320
0.3002 −0.299
0.3036 −0.291
0.3050 −0.287
0.3064 −0.261
0.3099 −0.251
0.3113 −0.248
0.3126 −0.225

2439064 +
0.2034 −0.336
0.2103 −0.470
0.2131 −0.519
0.2186 −0.574

0.2221 −0.615
0.2263 −0.672
0.2291 −0.690
0.2332 −0.686
0.2430 −0.656
0.2457 −0.645
0.2693 −0.478
0.2707 −0.460
0.2798 −0.371
0.2825 −0.364

2439230 +
0.3865 −0.391
0.3879 −0.379
0.3914 −0.354
0.3928 −0.327
0.3969 −0.294
0.3990 −0.275
0.4032 −0.230
0.4046 −0.222
0.4074 −0.205
0.4094 −0.192
0.4122 −0.190
0.4136 −0.187
0.4164 −0.166

2439260 +
0.4748 −0.555
0.4762 −0.536
0.4783 −0.535
0.4804 −0.519
0.4845 −0.498
0.4873 −0.467
0.4894 −0.456
0.4936 −0.456
0.4950 −0.443
0.5054 −0.432
0.5068 −0.416
0.5102 −0.403
0.5130 −0.354
0.5144 −0.354
0.5186 −0.340
0.5206 −0.335
0.5227 −0.303
0.5290 −0.306
0.5311 −0.299
0.5332 −0.290

0.5366 −0.262
0.5380 −0.256
0.5394 −0.242
0.5456 −0.205
0.5470 −0.163
0.5512 −0.165
0.5526 −0.129
0.5547 −0.121
0.5588 −0.083
0.5609 −0.082

2439264 +
0.4080 −0.532
0.4100 −0.557
0.4128 −0.568
0.4163 −0.577
0.4212 −0.580
0.4232 −0.580
0.4253 −0.571
0.4705 −0.413

2439267 +
0.5244 −0.500
0.5272 −0.504
0.5300 −0.530
0.5320 −0.523
0.5334 −0.530
0.5362 −0.508
0.5376 −0.511
0.5397 −0.511
0.5522 −0.420
0.5570 −0.378
0.5609 −0.343

2439268 +
0.3591 +0.210
0.3605 +0.184
0.3639 +0.103
0.3674 −0.002
0.3709 −0.085
0.3744 −0.199
0.3771 −0.248
0.3785 −0.297
0.3799 −0.327
0.3827 −0.418
0.3848 −0.466
0.3862 −0.508

0.3896 −0.540
0.3917 −0.573
0.3966 −0.632
0.3987 −0.662
0.4001 −0.664
0.4035 −0.662
0.4063 −0.660
0.4105 −0.644
0.4119 −0.638
0.4140 −0.623
0.4181 −0.608
0.4264 −0.576
0.4299 −0.551
0.4452 −0.397
0.4473 −0.375
0.4896 −0.175
0.4910 −0.146
0.4924 −0.139
0.4966 −0.106
0.4980 −0.094

2439323 +
0.3308 +0.134
0.3384 +0.032
0.3432 −0.059
0.3453 −0.110
0.3481 −0.158
0.3523 −0.310
0.3544 −0.368
0.3558 −0.401
0.3592 −0.483
0.3613 −0.545
0.3627 −0.570
0.3669 −0.615
0.3682 −0.633
0.3703 −0.653
0.3731 −0.646
0.3752 −0.639
0.3766 −0.633
0.3807 −0.639
0.3821 −0.630
0.3842 −0.627
0.3891 −0.617
0.3905 −0.607
0.3919 −0.604
0.3974 −0.579
0.4051 −0.540

0.4064 −0.527
0.4245 −0.463
0.4266 −0.466

2439326 +
0.3618 +0.131
0.4590 −0.437
0.4604 −0.512
0.4618 −0.563
0.4646 −0.594
0.4660 −0.623
0.4722 −0.732
0.4736 −0.747
0.4771 −0.770
0.4792 −0.782
0.4806 −0.788
0.4840 −0.780
0.4854 −0.790
0.4868 −0.780
0.4903 −0.776
0.4924 −0.777
0.4938 −0.771
0.4966 −0.766
0.4979 −0.759
0.4993 −0.756
0.5028 −0.727
0.5042 −0.719
0.5104 −0.669
0.5167 −0.590
0.5181 −0.582

2439346 +
0.3318 −0.156
0.3331 −0.184
0.3345 −0.204
0.3373 −0.279
0.3387 −0.345
0.3401 −0.402
0.3429 −0.462
0.3442 −0.493
0.3456 −0.533
0.3484 −0.587
0.3498 −0.609
0.3512 −0.628
0.3540 −0.650
0.3554 −0.679
0.3568 −0.681

0.3595 −0.669
0.3609 −0.679
0.3623 −0.672

2439349 +
0.4205 +0.029
0.4226 −0.023
0.4268 −0.126
0.4281 −0.157
0.4295 −0.200
0.4337 −0.340
0.4351 −0.381
0.4379 −0.427
0.4392 −0.453
0.4406 −0.473
0.4434 −0.508
0.4448 −0.517
0.4462 −0.544
0.4490 −0.568
0.4504 −0.580
0.4518 −0.589
0.4545 −0.600
0.4559 −0.612
0.4573 −0.611
0.4601 −0.620
0.4615 −0.612
0.4629 −0.609
0.4656 −0.602
0.4670 −0.605
0.4684 −0.604
0.4733 −0.582
0.4747 −0.584
0.4781 −0.573
0.4816 −0.558

2439373 +
0.3096 +0.319
0.3110 +0.320
0.3141 +0.312
0.3155 +0.308
0.3183 +0.327
0.3335 +0.475
0.3349 +0.475
0.3363 +0.493
0.3398 +0.477
0.3412 +0.467
0.3426 +0.466

0.3453 +0.464
0.3467 +0.429
0.3481 +0.436
0.3509 +0.450
0.3544 +0.472
0.3558 +0.478
0.3585 +0.506
0.3676 +0.463
0.3704 +0.412
0.3745 +0.316
0.3759 +0.290
0.3773 +0.283
0.3801 +0.203
0.3815 +0.169
0.3856 +0.043
0.3870 −0.024
0.3884 −0.093
0.3912 −0.173
0.3926 −0.243
0.3957 −0.417
0.3981 −0.491
0.3995 −0.538
0.4009 −0.587
0.4030 −0.650
0.4065 −0.747
0.4078 −0.768
0.4106 −0.819
0.4120 −0.863
0.4134 −0.876
0.4162 −0.885
0.4176 −0.892
0.4190 −0.914
0.4217 −0.922
0.4231 −0.919
0.4252 −0.925

2439381 +
0.3049 +0.397
0.3077 +0.388
0.3090 +0.405
0.3104 +0.414
0.3132 +0.403
0.3146 +0.408
0.3160 +0.397
0.3188 +0.385
0.3216 +0.392
0.3243 +0.354

0.3257 +0.339
0.3271 +0.336
0.3299 +0.267
0.3313 +0.248
0.3327 +0.233
0.3410 +0.000
0.3424 −0.032
0.3452 −0.097
0.3466 −0.159
0.3479 −0.205
0.3521 −0.389
0.3535 −0.435
0.3563 −0.494
0.3577 −0.548
0.3590 −0.586
0.3618 −0.673
0.3632 −0.719
0.3646 −0.743
0.3674 −0.760
0.3688 −0.783
0.3702 −0.791
0.3729 −0.812
0.3743 −0.822
0.3757 −0.826
0.3785 −0.828
0.3799 −0.825
0.3813 −0.830
0.3840 −0.820
0.3854 −0.818
0.3896 −0.798
0.3910 −0.807
0.3924 −0.797
0.3952 −0.767
0.3965 −0.758
0.3979 −0.758

2439409 +
0.2619 +0.112
0.2640 +0.050
0.2661 +0.006
0.2702 −0.141
0.2723 −0.185
0.2786 −0.336
0.2800 −0.363
0.2814 −0.393
0.2855 −0.468
0.2890 −0.536

0.2932 −0.601
0.2959 −0.654
0.2973 −0.686
0.3022 −0.707
0.3043 −0.722
0.3057 −0.731
0.3098 −0.715
0.3112 −0.717
0.3175 −0.687
0.3188 −0.672
0.3209 −0.646
0.3251 −0.611
0.3265 −0.601
0.3279 −0.590
0.3320 −0.562
0.3341 −0.556
0.3355 −0.544

2439413 +
0.2486 +0.050
0.2528 −0.069
0.2549 −0.119
0.2597 −0.257
0.2618 −0.317
0.2632 −0.367
0.2667 −0.461
0.2681 −0.488
0.2736 −0.612
0.2757 −0.648
0.2771 −0.665
0.2806 −0.714
0.2826 −0.734
0.2847 −0.764
0.2882 −0.797
0.2896 −0.810
0.2917 −0.832
0.2951 −0.847

2439507 +
0.6021 −0.842
0.6035 −0.849
0.6049 −0.826
0.6084 −0.784
0.6097 −0.759
0.6111 −0.746
0.6146 −0.712
0.6160 −0.701

0.6181 −0.687
0.6229 −0.637
0.6250 −0.626
0.6271 −0.615
0.6313 −0.587
0.6334 −0.568

2439581 +
0.5432 +0.371
0.5446 +0.349
0.5474 +0.261
0.5488 +0.231
0.5515 +0.152
0.5529 +0.132
0.5571 −0.009
0.5599 −0.162
0.5613 −0.214
0.5633 −0.355
0.5647 −0.417
0.5668 −0.494
0.5682 −0.519
0.5703 −0.530
0.5717 −0.576
0.5738 −0.713
0.5752 −0.802
0.5779 −0.928
0.5793 −0.963
0.5814 −0.982
0.5828 −0.988
0.5863 −1.012
0.5883 −1.013
0.5918 −1.009
0.5932 −1.011
0.5953 −1.007

2439604 +
0.5178 +0.328
0.5192 +0.325
0.5219 +0.294
0.5233 +0.298
0.5261 +0.278
0.5275 +0.278
0.5303 +0.287
0.5365 +0.241
0.5379 +0.229
0.5407 +0.224
0.5421 +0.220
0.5469 +0.202
0.5483 +0.200
0.5511 +0.182
0.5567 +0.114
0.5657 −0.025
0.5726 −0.187
0.5740 −0.221
0.5768 −0.280
0.5782 −0.338
0.5810 −0.432
0.5824 −0.468
0.5851 −0.516
0.5865 −0.541
0.5893 −0.591
0.5907 −0.602
0.5935 −0.610
0.5948 −0.617
0.5976 −0.634
0.5990 −0.648
0.6018 −0.648
0.6032 −0.656
0.6060 −0.656
0.6074 −0.643
0.6101 −0.645

2439605 +
0.4553 −0.088
0.4615 −0.212
0.4636 −0.242
0.4650 −0.303
0.4664 −0.363
0.4685 −0.413
0.4726 −0.516
0.4747 −0.541
0.4810 −0.587
0.4844 −0.626
0.4858 −0.628
0.4886 −0.636
0.4900 −0.636
0.4935 −0.630
0.4949 −0.625
0.4983 −0.622
0.5004 −0.621
0.5032 −0.612
0.5046 −0.596
0.5101 −0.577
0.5115 −0.579
0.5143 −0.561
0.5310 −0.461
0.5386 −0.410

2439648 +
0.4302 −0.297
0.4372 −0.578
0.4393 −0.659
0.4407 −0.731
0.4420 −0.779
0.4455 −0.817
0.4469 −0.828
0.4483 −0.833
0.4518 −0.792
0.4532 −0.778
0.4552 −0.769
0.4587 −0.783
0.4608 −0.813
0.4622 −0.819
0.4657 −0.795
0.4670 −0.786
0.4684 −0.781
0.4726 −0.737
0.4747 −0.716
0.4775 −0.698
0.4816 −0.655
0.4830 −0.641
0.4851 −0.624
0.4886 −0.584
0.4900 −0.564
0.4962 −0.529
0.4983 −0.523

2439667 +
0.4741 +0.083
0.4754 +0.029
0.4768 −0.091
0.4796 −0.228
0.4810 −0.315
0.4838 −0.375
0.4852 −0.428
0.4880 −0.550
0.4893 −0.602
0.4935 −0.747
0.4963 −0.808
0.5004 −0.872
0.5018 −0.884
0.5046 −0.908
0.5060 −0.919
0.5088 −0.906
0.5102 −0.906
0.5130 −0.883
0.5143 −0.884
0.5171 −0.887
0.5185 −0.880
0.5213 −0.848
0.5254 −0.793
0.5268 −0.801
0.5296 −0.750
0.5310 −0.728

2439710 +
0.4301 −0.025
0.4335 −0.141
0.4349 −0.183
0.4377 −0.275
0.4391 −0.320
0.4419 −0.395
0.4433 −0.438
0.4460 −0.522
0.4474 −0.550
0.4502 −0.616
0.4516 −0.636
0.4544 −0.708
0.4558 −0.718

2439711 +
0.3405 −0.791
0.3432 −0.800
0.3446 −0.802
0.3495 −0.819
0.3509 −0.833
0.3530 −0.824
0.3571 −0.835
0.3585 −0.821
0.3599 −0.804
0.3634 −0.779
0.3648 −0.777
0.3669 −0.750
0.3703 −0.705
0.3717 −0.686
0.3731 −0.672
0.3766 −0.612
0.3794 −0.597
0.3808 −0.573

2439714 +
0.4162 −0.466
0.4176 −0.501
0.4224 −0.611
0.4245 −0.667
0.4273 −0.706
0.4328 −0.775
0.4342 −0.793
0.4363 −0.801
0.4419 −0.809
0.4474 −0.785
0.4488 −0.780
0.4502 −0.771
0.4537 −0.742
0.4551 −0.724
0.4564 −0.714
0.4592 −0.683
0.4606 −0.687
0.4620 −0.672

2439722 +
0.3710 −0.295
0.3738 −0.397
0.3752 −0.438
0.3786 −0.507
0.3800 −0.535
0.3849 −0.637
0.3904 −0.730
0.3925 −0.739
0.3953 −0.764
0.4002 −0.735
0.4029 −0.714
0.4043 −0.723
0.4078 −0.738
0.4126 −0.756
0.4147 −0.759
0.4210 −0.746
0.4231 −0.716
0.4300 −0.623
0.4335 −0.586
0.4383 −0.517

2439726 +
0.3709 −0.437
0.3723 −0.466

0.3737 −0.507
0.3779 −0.588
0.3793 −0.603
0.3807 −0.632
0.3848 −0.677
0.3862 −0.692
0.3876 −0.727
0.3911 −0.723
0.3925 −0.733
0.3945 −0.779
0.4091 −0.813
0.4119 −0.792
0.4168 −0.716
0.4188 −0.679
0.4251 −0.598
0.4272 −0.592
0.4293 −0.572
0.4355 −0.480

2439738 +
0.3242 +0.398
0.3284 +0.441
0.3298 +0.427
0.3347 +0.417
0.3368 +0.411
0.3388 +0.355
0.3458 +0.120
0.3479 +0.000
0.3500 −0.048
0.3541 −0.260
0.3576 −0.391
0.3611 −0.543
0.3624 −0.621
0.3638 −0.616
0.3666 −0.605
0.3680 −0.637
0.3694 −0.703
0.3722 −0.787
0.3742 −0.826
0.3756 −0.840
0.3798 −0.868
0.3826 −0.875
0.3847 −0.876
0.3888 −0.872
0.3909 −0.863
0.3937 −0.854
0.3979 −0.830
0.3999 −0.808
0.4027 −0.771
0.4062 −0.722
0.4076 −0.726

2439923 +
0.4817 −0.683
0.4845 −0.690
0.4908 −0.687
0.4921 −0.666
0.4949 −0.662
0.4970 −0.661
0.4998 −0.646
0.5012 −0.641
0.5039 −0.604
0.5053 −0.580
0.5081 −0.562
0.5095 −0.550
0.5123 −0.542
0.5137 −0.517
0.5164 −0.502
0.5178 −0.478
0.5206 −0.447
0.5220 −0.437

2439942 +
0.4549 +0.287
0.4563 +0.287
0.4590 +0.306
0.4604 +0.314
0.4632 +0.291
0.4646 +0.289
0.4674 +0.302
0.4688 +0.314
0.4716 +0.349
0.4729 +0.352
0.4757 +0.368
0.4771 +0.363
0.4799 +0.345
0.4813 +0.335
0.4840 +0.333
0.4854 +0.341
0.4882 +0.337
0.4896 +0.341
0.4924 +0.337
0.4938 +0.349
0.4966 +0.339
0.4979 +0.355
0.5007 +0.355
0.5021 +0.349
0.5063 +0.349
0.5090 +0.326
0.5104 +0.329
0.5132 +0.311
0.5146 +0.307
0.5174 +0.294
0.5188 +0.271
0.5216 +0.229
0.5229 +0.215
0.5257 +0.115
0.5271 +0.064
0.5299 −0.035
0.5313 −0.060
0.5327 −0.118
0.5354 −0.221
0.5368 −0.288
0.5382 −0.350
0.5410 −0.444
0.5438 −0.548
0.5466 −0.620
0.5479 −0.666
0.5493 −0.709
0.5521 −0.770
0.5535 −0.798
0.5549 −0.804
0.5577 −0.821
0.5590 −0.827
0.5604 −0.835
0.5632 −0.829
0.5646 −0.818
0.5660 −0.811
0.5688 −0.789
0.5702 −0.780
0.5716 −0.760
0.5743 −0.735
0.5757 −0.729
0.5771 −0.720

2439978 +
0.3635 +0.275
0.3649 +0.274
0.3676 +0.258
0.3790 +0.247
0.3718 +0.253
0.3732 +0.245
0.3760 +0.189
0.3774 +0.139
0.3801 +0.092
0.3815 +0.071
0.3843 +0.030
0.3857 +0.006
0.3885 −0.017
0.3899 −0.018
0.3968 −0.088
0.3982 −0.099
0.4010 −0.138
0.4024 −0.170
0.4051 −0.223
0.4065 −0.251
0.4093 −0.294
0.4107 −0.327
0.4135 −0.392
0.4149 −0.413
0.4176 −0.454
0.4190 −0.485
0.4218 −0.535
0.4232 −0.536
0.4260 −0.559
0.4274 −0.570
0.4301 −0.577
0.4315 −0.576
0.4343 −0.579
0.4357 −0.566
0.4385 −0.552
0.4399 −0.544
0.4440 −0.526
0.4468 −0.516
0.4482 −0.523
0.4510 −0.507
0.4524 −0.494
0.4551 −0.471
0.4565 −0.472
0.4593 −0.445
0.4607 −0.436
0.4635 −0.409
0.4649 −0.400
0.4676 −0.386
0.4690 −0.376

2439985 +
0.4557 +0.379
0.4571 +0.391
0.4599 +0.395
0.4613 +0.381
0.4835 +0.283
0.4926 +0.178
0.4974 +0.099
0.4988 +0.069
0.5030 −0.005
0.5050 −0.051
0.5113 −0.291
0.5127 −0.371
0.5155 −0.450
0.5176 −0.468
0.5210 −0.478
0.5224 −0.512
0.5252 −0.595
0.5266 −0.635
0.5294 −0.653
0.5307 −0.675
0.5335 −0.676
0.5349 −0.671
0.5377 −0.673
0.5391 −0.673
0.5419 −0.673
0.5432 −0.663
0.5460 −0.657
0.5474 −0.650
0.5502 −0.647
0.5516 −0.646
0.5571 −0.617
0.5585 −0.616
0.5627 −0.591
0.5655 −0.576
0.5669 −0.572
0.5696 −0.563
0.5710 −0.561

2439993 +
0.4695 +0.103
0.4709 +0.025
0.4737 −0.081
0.4751 −0.120
0.4792 −0.303
0.4820 −0.412
0.4834 −0.466
0.4862 −0.528
0.4876 −0.580

0.4904 −0.647
0.4918 −0.672
0.4959 −0.734
0.5001 −0.793
0.5029 −0.823
0.5042 −0.827
0.5077 −0.827
0.5098 −0.819
0.5126 −0.812
0.5140 −0.796
0.5168 −0.762

2440012 +
0.4602 +0.198
0.4616 +0.142
0.4637 +0.085
0.4679 −0.015
0.4692 −0.043
0.4720 −0.123
0.4734 −0.141
0.4755 −0.226
0.4769 −0.269
0.4797 −0.316
0.4811 −0.336
0.4838 −0.399
0.4852 −0.441
0.4880 −0.517
0.4894 −0.541
0.4922 −0.567
0.4936 −0.585
0.4963 −0.611
0.4977 −0.620
0.5019 −0.639
0.5047 −0.655
0.5061 −0.663
0.5088 −0.677
0.5102 −0.677
0.5130 −0.671
0.5144 −0.668
0.5172 −0.668
0.5186 −0.652
0.5213 −0.651
0.5227 −0.646
0.5255 −0.634
0.5269 −0.631

2440067 +
0.4016 +0.411
0.4030 +0.406
0.4058 +0.389
0.4071 +0.404
0.4099 +0.377
0.4113 +0.375
0.4141 +0.340
0.4155 +0.313
0.4183 +0.286
0.4196 +0.291
0.4238 +0.240
0.4266 +0.208
0.4280 +0.191
0.4467 −0.247
0.4481 −0.291
0.4509 −0.380
0.4523 −0.405
0.4551 −0.514
0.4564 −0.540
0.4592 −0.533
0.4606 −0.530
0.4634 −0.574
0.4648 −0.593

2440338 +
0.4264 +0.344
0.4277 +0.329
0.4305 +0.316
0.4319 +0.310
0.4347 +0.288
0.4388 +0.245
0.4402 +0.229
0.4430 +0.187
0.4444 +0.164
0.4472 +0.112
0.4486 +0.083
0.4514 +0.014
0.4527 +0.009
0.4555 −0.058
0.4569 −0.084
0.4597 −0.149
0.4611 −0.169
0.4639 −0.223
0.4652 −0.247
0.4680 −0.323
0.4694 −0.378

0.4722 −0.434
0.4736 −0.452
0.4764 −0.499
0.4777 −0.527
0.4805 −0.524
0.4819 −0.526
0.4847 −0.531
0.4861 −0.538
0.4888 −0.584
0.4902 −0.589
0.4930 −0.608
0.4944 −0.613
0.4972 −0.614
0.4986 −0.612
0.5014 −0.596
0.5055 −0.580
0.5069 −0.578
0.5097 −0.570
0.5111 −0.549
0.5138 −0.539
0.5152 −0.523
0.5180 −0.512
0.5194 −0.502
0.5222 −0.499
0.5236 −0.488
0.5264 −0.464
0.5277 −0.462

2440354 +
0.3998 +0.296
0.4012 +0.285
0.4040 +0.251
0.4054 +0.240
0.4082 +0.262
0.4096 +0.278
0.4124 +0.254
0.4138 +0.244
0.4166 +0.223
0.4180 +0.225
0.4207 +0.229
0.4221 +0.218
0.4249 +0.198
0.4263 +0.176
0.4291 +0.126
0.4305 +0.112
0.4332 +0.082
0.4360 +0.040

0.4374 +0.012
0.4402 −0.023
0.4416 −0.080
0.4485 −0.270
0.4499 −0.310
0.4527 −0.385
0.4541 −0.416
0.4568 −0.500
0.4582 −0.523
0.4624 −0.577
0.4652 −0.634
0.4666 −0.654
0.4693 −0.680
0.4707 −0.697
0.4735 −0.698
0.4749 −0.698
0.5041 −0.692
0.5055 −0.692

2440357 +
0.4851 +0.293
0.4879 +0.331
0.4893 +0.383
0.4921 +0.400
0.4935 +0.395
0.4962 +0.426
0.4976 +0.412
0.5018 +0.410
0.5046 +0.439
0.5060 +0.438
0.5087 +0.412
0.5101 +0.402
0.5129 +0.397
0.5143 +0.392
0.5171 +0.389
0.5185 +0.373
0.5254 +0.388
0.5268 +0.391
0.5296 +0.341
0.5310 +0.332
0.5337 +0.310
0.5470 +0.049
0.5484 +0.009
0.5525 −0.092
0.5553 −0.176
0.5567 −0.238
0.5594 −0.332

0.5608 −0.380

2440389 +
0.4362 −0.678
0.4376 −0.681
0.4397 −0.706
0.4411 −0.718
0.4432 −0.708
0.4446 −0.722
0.4467 −0.722
0.4480 −0.723
0.4501 −0.722
0.4515 −0.714
0.4536 −0.707
0.4550 −0.681
0.4571 −0.663
0.4585 −0.653

2440420 +
0.3794 +0.221
0.3821 +0.178
0.3835 +0.175
0.3863 +0.115
0.3877 +0.082
0.3919 +0.021
0.3946 −0.013
0.3960 −0.047
0.3988 −0.145
0.4002 −0.190
0.4030 −0.279
0.4044 −0.329
0.4071 −0.422
0.4085 −0.460
0.4113 −0.467
0.4127 −0.484
0.4155 −0.529
0.4169 −0.565
0.4196 −0.580
0.4210 −0.585
0.4238 −0.585
0.4252 −0.587
0.4280 −0.586
0.4294 −0.585
0.4321 −0.585
0.4335 −0.582
0.4363 −0.564
0.4377 −0.565

0.4405 −0.566
0.4419 −0.557
0.4446 −0.551
0.4460 −0.542
0.4488 −0.537
0.4502 −0.524
0.4523 −0.521
0.4537 −0.500

2440436 +
0.3419 +0.354
0.3433 +0.370
0.3544 +0.354
0.3599 +0.307
0.3627 +0.264
0.3641 +0.236
0.3669 +0.202
0.3683 +0.190
0.3752 +0.073
0.3766 +0.050
0.3794 +0.057
0.3808 +0.013
0.3835 −0.064
0.3849 −0.134
0.3891 −0.273
0.3919 −0.347
0.3933 −0.373
0.3960 −0.411
0.3974 −0.414
0.4002 −0.516
0.4016 −0.552
0.4044 −0.620
0.4058 −0.664
0.4085 −0.738
0.4099 −0.771
0.4127 −0.791
0.4141 −0.798
0.4210 −0.787
0.4224 −0.768
0.4252 −0.742
0.4266 −0.724
0.4294 −0.717
0.4308 −0.711
0.4335 −0.674
0.4349 −0.649

2440439 +
0.4472 +0.431
0.4486 +0.445
0.4514 +0.440
0.4570 +0.400
0.4597 +0.375
0.4611 +0.366
0.4639 +0.310
0.4653 +0.300
0.4695 +0.263
0.4722 +0.238
0.4736 +0.237
0.4764 +0.219
0.4778 +0.190
0.4806 +0.152
0.4820 +0.095
0.4847 −0.007
0.4861 −0.073
0.4889 −0.155
0.4903 −0.224
0.4931 −0.280
0.4945 −0.316
0.4972 −0.375
0.4986 −0.408
0.5014 −0.531
0.5028 −0.610
0.5056 −0.693
0.5070 −0.712
0.5118 −0.761
0.5132 −0.764
0.5160 −0.777
0.5174 −0.783
0.5201 −0.802
0.5215 −0.813
0.5243 −0.813
0.5257 −0.802
0.5285 −0.764
0.5299 −0.749
0.5326 −0.739
0.5340 −0.741
0.5368 −0.724
0.5382 −0.723
0.5410 −0.705

2440675 +
0.4961 +0.206
0.4975 +0.195
0.5017 +0.200
0.5031 +0.188
0.5045 +0.178
0.5073 +0.178
0.5087 +0.135
0.5101 +0.128
0.5128 +0.086
0.5142 +0.089
0.5156 +0.080
0.5184 +0.040
0.5198 +0.019
0.5212 +0.010
0.5239 −0.052
0.5253 −0.073
0.5267 −0.103
0.5295 −0.200
0.5323 −0.295
0.5350 −0.368
0.5364 −0.393
0.5378 −0.420
0.5406 −0.491
0.5420 −0.516
0.5461 −0.635
0.5475 −0.661
0.5489 −0.668
0.5517 −0.692
0.5531 −0.691
0.5545 −0.700
0.5573 −0.707
0.5587 −0.719
0.5601 −0.721
0.5642 −0.706
0.5656 −0.706
0.5684 −0.691
0.5698 −0.688
0.5712 −0.686
0.5739 −0.680
0.5753 −0.673
0.5795 −0.637
0.5809 −0.626

2440707 +
0.3989 +0.205
0.4003 +0.167
0.4030 +0.114
0.4044 +0.089
0.4100 −0.021
0.4114 −0.064
0.4142 −0.157
0.4156 −0.177
0.4183 −0.256
0.4197 −0.306
0.4225 −0.397
0.4239 −0.420
0.4267 −0.508
0.4280 −0.526
0.4308 −0.559
0.4322 −0.569
0.4350 −0.607
0.4364 −0.623
0.4392 −0.630
0.4405 −0.638
0.4433 −0.648
0.4447 −0.653
0.4475 −0.681
0.4489 −0.670
0.4517 −0.670
0.4530 −0.668
0.4551 −0.677
0.4565 −0.664
0.4607 −0.670
0.4635 −0.659
0.4676 −0.628
0.4690 −0.617

2440769 +
0.4157 +0.295
0.4171 +0.314
0.4198 +0.384
0.4212 +0.453
0.4240 +0.439
0.4254 +0.474
0.4281 +0.464
0.4295 +0.461
0.4323 +0.423
0.4337 +0.383
0.4379 +0.313
0.4420 +0.260
0.4448 +0.231
0.4462 +0.208
0.4490 +0.166
0.4504 +0.147
0.4531 +0.112
0.4545 +0.081
0.4573 +0.026
0.4615 −0.106
0.4629 −0.135
0.4656 −0.190
0.4670 −0.240
0.4698 −0.343
0.4712 −0.385
0.4740 −0.492
0.4754 −0.521
0.4781 −0.609
0.4795 −0.637
0.4823 −0.658
0.4865 −0.688
0.4879 −0.689
0.4906 −0.690
0.4920 −0.680
0.4948 −0.681
0.4962 −0.671
0.4990 −0.662
0.5004 −0.652
0.5031 −0.643
0.5045 −0.638

2440781 +
0.3939 +0.203
0.3967 +0.195
0.3981 +0.184
0.4009 +0.136
0.4023 +0.110
0.4050 +0.068
0.4064 +0.021
0.4091 −0.060
0.4133 −0.221
0.4147 −0.280
0.4175 −0.400
0.4189 −0.430
0.4230 −0.545
0.4258 −0.611
0.4272 −0.634
0.4293 −0.687
0.4307 −0.710
0.4334 −0.763
0.4348 −0.803
0.4376 −0.854
0.4390 −0.857
0.4418 −0.830
0.4432 −0.815

0.4460 −0.805
0.4474 −0.790
0.4502 −0.788
0.4516 −0.779
0.4543 −0.805
0.4557 −0.820
0.4585 −0.817
0.4599 −0.814
0.4627 −0.801
0.4641 −0.787
0.4668 −0.746
0.4682 −0.720
0.4710 −0.680
0.4724 −0.666
0.4752 −0.615
0.4766 −0.611

2440796 +
0.4214 +0.074
0.4227 +0.040
0.4255 +0.005
0.4269 −0.018
0.4297 −0.037
0.4311 −0.066
0.4339 −0.195
0.4352 −0.220
0.4380 −0.319
0.4394 −0.347
0.4436 −0.422
0.4464 −0.480
0.4477 −0.501
0.4505 −0.532
0.4519 −0.545

2440807 +
0.5050 +0.346
0.5064 +0.353
0.5091 +0.340
0.5133 +0.324
0.5147 +0.335
0.5175 +0.335
0.5189 +0.341
0.5230 +0.330
0.5258 +0.316
0.5272 +0.306
0.5300 +0.296
0.5314 +0.267
0.5341 +0.240
0.5355 +0.205
0.5383 +0.078
0.5397 −0.009
0.5425 −0.063
0.5439 −0.078
0.5466 −0.144
0.5480 −0.220
0.5508 −0.290
0.5550 −0.474
0.5564 −0.539
0.5591 −0.622
0.5605 −0.651
0.5631 −0.692
0.5675 −0.698
0.5689 −0.709
0.5716 −0.685
0.5730 −0.693
0.5758 −0.672
0.5772 −0.668
0.5800 −0.654
0.5814 −0.638

2440859 +
0.3349 +0.425
0.3363 +0.416
0.3447 +0.397
0.3488 +0.360
0.3597 +0.214
0.3611 +0.189
0.3625 +0.154
0.3655 +0.087
0.3669 +0.065
0.3683 +0.049
0.3710 −0.014
0.3724 −0.051
0.3738 −0.068
0.3766 −0.132
0.3780 −0.171
0.3794 −0.197
0.3821 −0.288
0.3835 −0.315
0.3849 −0.361
0.3884 −0.454
0.3898 −0.489
0.3912 −0.550
0.3940 −0.631
0.3952 −0.657
0.3966 −0.690
0.4002 −0.789
0.4016 −0.807
0.4030 −0.806
0.4078 −0.780
0.4092 −0.753
0.4106 −0.736
0.4148 −0.675
0.4162 −0.656
0.4176 −0.642
0.4210 −0.604
0.4224 −0.586

2440867 +
0.3109 +0.265
0.3172 +0.164
0.3186 +0.148
0.3248 −0.023
0.3269 −0.104
0.3311 −0.250
0.3347 −0.366
0.3380 −0.485
0.3394 −0.510
0.3443 −0.644
0.3457 −0.665
0.3505 −0.734
0.3519 −0.762
0.3561 −0.796
0.3575 −0.801
0.3616 −0.784
0.3644 −0.763
0.3707 −0.720
0.3755 −0.684

2440883 +
0.2557 −0.116
0.2571 −0.126
0.2598 −0.163
0.2612 −0.175
0.2661 −0.306
0.2675 −0.339
0.2689 −0.376
0.2723 −0.452
0.2737 −0.508
0.2751 −0.560
0.2772 −0.601
0.2786 −0.604
0.2800 −0.645
0.2834 −0.680
0.2848 −0.681
0.2862 −0.679
0.2900 −0.678
0.2914 −0.679
0.2928 −0.682
0.2945 −0.674
0.2959 −0.681
0.2973 −0.678
0.3001 −0.676
0.3015 −0.674
0.3057 −0.656
0.3071 −0.663
0.3085 −0.655

2441035 +
0.5952 +0.385
0.5964 +0.408
0.5975 +0.394
0.5998 +0.368
0.6009 +0.381
0.6021 +0.358
0.6070 +0.354
0.6100 +0.325
0.6113 +0.317
0.6175 +0.168
0.6187 +0.153
0.6224 +0.072
0.6252 −0.013
0.6274 −0.101
0.6287 −0.197
0.6300 −0.251
0.6328 −0.414
0.6340 −0.478
0.6353 −0.538
0.6381 −0.637
0.6394 −0.696
0.6408 −0.727
0.6440 −0.821
0.6454 −0.869
0.6466 −0.898

2441060 +
0.3977 +0.398
0.3992 +0.370
0.4030 +0.323
0.4041 +0.360
0.4082 +0.336
0.4095 +0.353
0.4108 +0.353
0.4138 +0.422
0.4150 +0.421
0.4161 +0.428
0.4184 +0.411
0.4206 +0.403
0.4232 +0.409
0.4243 +0.384
0.4256 +0.399
0.4293 +0.354
0.4305 +0.351
0.4340 +0.349
0.4350 +0.345
0.4391 +0.303
0.4404 +0.279
0.4445 +0.230
0.4456 +0.215
0.4479 +0.162
0.4489 +0.127
0.4522 +0.017
0.4533 −0.014
0.4543 −0.058
0.4569 −0.113
0.4593 −0.140
0.4620 −0.175
0.4631 −0.211
0.4640 −0.253
0.4663 −0.329
0.4674 −0.384
0.4686 −0.428
0.4710 −0.515
0.4719 −0.548
0.4729 −0.574

2441063 +
0.5037 +0.337
0.5048 +0.332
0.5072 +0.324
0.5095 +0.326
0.5121 +0.332
0.5136 +0.311
0.5148 +0.312
0.5176 +0.321

0.5198 +0.298
0.5249 +0.324
0.5318 +0.336
0.5330 +0.357
0.5354 +0.348
0.5366 +0.355
0.5377 +0.322
0.5402 +0.304
0.5415 +0.288
0.5427 +0.270
0.5512 +0.162
0.5523 +0.123
0.5548 +0.023
0.5573 −0.032
0.5598 −0.073
0.5611 −0.100
0.5623 −0.135
0.5647 −0.166
0.5658 −0.194
0.5669 −0.247
0.5704 −0.411
0.5715 −0.442
0.5736 −0.498
0.5746 −0.566
0.5757 −0.594
0.5780 −0.643
0.5792 −0.673
0.5803 −0.701
0.5838 −0.765
0.5849 −0.792
0.5873 −0.836
0.5883 −0.845
0.5894 −0.842
0.5918 −0.845
0.5930 −0.857

2441071 +
0.5160 −0.022
0.5171 −0.040
0.5182 −0.069
0.5206 −0.135
0.5216 −0.156
0.5226 −0.170
0.5247 −0.271
0.5257 −0.318
0.5266 −0.348
0.5293 −0.394
0.5303 −0.428
0.5313 −0.441
0.5346 −0.530
0.5368 −0.581
0.5392 −0.649
0.5402 −0.673
0.5414 −0.698
0.5462 −0.746
0.5473 −0.759
0.5485 −0.761
0.5508 −0.792
0.5533 −0.797
0.5543 −0.794
0.5571 −0.799
0.5597 −0.796
0.5647 −0.783

2441087 +
0.4120 +0.123
0.4131 +0.111
0.4154 +0.097
0.4187 +0.076
0.4200 +0.067
0.4210 +0.049
0.4222 +0.032
0.4249 +0.005
0.4260 −0.017
0.4272 −0.029
0.4284 −0.054
0.4322 −0.108
0.4334 −0.150
0.4346 −0.184
0.4377 −0.244
0.4388 −0.289
0.4413 −0.328
0.4438 −0.367
0.4464 −0.415
0.4475 −0.434
0.4503 −0.462
0.4514 −0.482
0.4525 −0.496
0.4537 −0.509
0.4565 −0.527
0.4577 −0.542
0.4605 −0.578
0.4627 −0.591
0.4638 −0.619
0.4663 −0.633
0.4687 −0.645
0.4698 −0.639
0.4709 −0.651
0.4720 −0.648
0.4745 −0.633
0.4758 −0.648
0.4823 −0.631
0.4835 −0.633
0.4847 −0.620
0.4861 −0.631
0.4903 −0.599
0.4916 −0.592
0.4029 −0.602
0.4956 −0.594
0.4969 −0.600
0.4982 −0.587
0.4993 −0.585
0.5019 −0.555
0.5033 −0.558
0.5044 −0.549

2441094 +
0.5293 +0.157
0.5302 +0.138
0.5312 +0.141
0.5322 +0.131
0.5331 +0.116
0.5353 +0.104
0.5366 +0.074
0.5380 +0.067
0.5391 +0.085
0.5402 +0.057
0.5429 +0.040
0.5440 +0.015
0.5451 +0.000
0.5463 −0.027
0.5486 −0.096
0.5496 −0.122
0.5505 −0.137
0.5516 −0.186
0.5549 −0.324
0.5560 −0.364
0.5571 −0.395
0.5595 −0.502

2441095 +
0.4177 +0.229
0.4191 +0.216
0.4202 +0.204
0.4215 +0.190
0.4237 +0.165
0.4247 +0.150
0.4257 +0.129
0.4268 +0.093
0.4290 +0.035
0.4301 +0.009
0.4312 −0.046
0.4322 −0.071
0.4333 −0.096
0.4382 −0.258
0.4393 −0.297
0.4404 −0.333
0.4429 −0.386
0.4440 −0.417
0.4463 −0.471
0.4489 −0.511
0.4502 −0.547
0.4637 −0.732
0.4649 −0.737
0.4673 −0.744
0.4684 −0.750
0.4694 −0.759
0.4705 −0.763
0.4729 −0.761
0.4740 −0.754
0.4751 −0.751
0.4785 −0.740
0.4796 −0.736
0.4808 −0.731
0.4820 −0.731
0.4846 −0.719
0.4958 −0.713
0.4872 −0.696
0.4883 −0.686

2441118 +
0.4686 −0.804
0.4699 −0.832
0.4709 −0.855
0.4720 −0.875
0.4741 −0.889
0.4753 −0.889
0.4763 −0.898
0.4775 −0.911
0.4802 −0.905
0.4813 −0.913
0.4825 −0.912
0.4837 −0.897
0.4867 −0.887
0.4882 −0.876
0.4894 −0.858
0.4908 −0.851
0.4932 −0.829
0.4943 −0.812
0.4954 −0.803
0.4990 −0.776
0.5004 −0.774
0.5017 −0.760
0.5031 −0.737

2441126 +
0.4075 −0.078
0.4096 −0.179
0.4110 −0.219
0.4144 −0.343
0.4158 −0.358
0.4172 −0.351
0.4186 −0.347
0.4213 −0.403
0.4227 −0.442
0.4258 −0.493
0.4290 −0.523
0.4304 −0.543
0.4318 −0.571
0.4332 −0.582
0.4353 −0.615
0.4367 −0.633
0.4380 −0.634
0.4395 −0.642
0.4463 −0.681
0.4476 −0.688
0.4487 −0.688

2441161 +
0.3742 +0.269
0.3753 +0.279
0.3782 +0.281
0.3807 +0.272
0.3834 +0.302

0.3846 +0.290
0.3857 +0.282
0.3890 +0.255
0.3903 +0.246
0.3915 +0.262
0.3936 +0.230
0.3947 +0.195
0.3959 +0.147
0.4002 +0.067
0.4016 +0.041
0.4043 −0.039
0.4058 −0.074
0.4069 −0.118
0.4107 −0.276
0.4117 −0.296
0.4140 −0.360
0.4153 −0.402
0.4165 −0.458
0.4189 −0.534
0.4201 −0.573
0.4213 −0.606
0.4237 −0.662
0.4250 −0.691
0.4263 −0.705
0.4286 −0.711
0.4298 −0.718
0.4311 −0.709
0.4334 −0.702
0.4348 −0.696
0.4362 −0.690

2441189 +
0.3085 +0.496
0.3095 +0.509
0.3106 +0.499
0.3124 +0.472
0.3148 +0.452
0.3173 +0.424
0.3187 +0.406
0.3197 +0.379
0.3201 +0.371
0.3259 +0.324
0.3271 +0.318
0.3286 +0.302
0.3327 +0.208
0.3338 +0.192
0.3364 +0.128
0.3376 +0.109
0.3390 +0.039
0.3415 −0.026
0.3430 −0.095
0.3441 −0.155
0.3465 −0.250
0.3476 −0.298
0.3490 −0.345
0.3515 −0.440
0.3526 −0.489
0.3538 −0.524
0.3563 −0.617
0.3574 −0.674
0.3606 −0.768
0.3618 −0.815
0.3631 −0.845
0.3655 −0.861
0.3666 −0.873
0.3677 −0.876
0.3708 −0.917
0.3721 −0.926
0.3732 −0.936
0.3760 −0.938
0.3772 −0.942
0.3785 −0.935
0.3808 −0.926
0.3822 −0.908
0.3835 −0.913
0.3859 −0.906
0.3871 −0.896
0.3908 −0.860
0.3922 −0.849
0.3933 −0.837
0.3956 −0.807
0.3970 −0.789
0.3985 −0.778

2441529 +
0.4848 +0.021
0.4883 −0.114
0.4924 −0.316
0.4938 −0.348
0.4966 −0.485
0.4980 −0.534
0.5008 −0.607
0.5049 −0.691
0.5091 −0.735
0.5105 −0.745
0.5133 −0.744
0.5147 −0.739
0.5188 −0.728
0.5216 −0.701
0.5237 −0.684
0.5272 −0.651
0.5313 −0.609
0.5327 −0.587
0.5355 −0.567
0.5369 −0.564

2441537 +
0.4202 +0.303
0.4229 +0.246
0.4243 +0.241
0.4271 +0.185
0.4313 +0.044
0.4327 +0.010
0.4354 −0.040
0.4396 −0.184
0.4410 −0.214
0.4438 −0.266
0.4452 −0.312
0.4479 −0.358
0.4493 −0.398
0.4521 −0.486
0.4535 −0.511
0.4563 −0.555
0.4577 −0.575
0.4604 −0.590
0.4618 −0.596
0.4646 −0.612
0.4660 −0.615
0.4688 −0.616
0.4702 −0.622

2441538 +
0.3354 −0.323
0.3368 −0.341
0.3396 −0.414
0.3438 −0.542
0.3452 −0.574
0.3493 −0.669
0.3514 −0.705
0.3528 −0.706
0.3563 −0.725
0.3577 −0.735
0.3604 −0.723
0.3618 −0.722
0.3646 −0.721
0.3660 −0.695
0.3688 −0.692
0.3701 −0.678
0.3729 −0.648
0.3743 −0.645
0.3785 −0.586
0.3813 −0.548
0.3827 −0.534
0.3854 −0.531
0.3868 −0.516

2441545 +
0.4046 +0.201
0.4057 +0.198
0.4070 +0.212
0.4089 +0.199
0.4103 +0.208
0.4116 +0.199
0.4149 +0.171
0.4161 +0.153
0.4176 +0.132
0.4219 +0.023
0.4233 +0.001
0.4259 −0.048
0.4273 −0.078
0.4288 −0.106
0.4315 −0.161
0.4328 −0.215
0.4339 −0.247
0.4370 −0.324
0.4399 −0.435
0.4428 −0.520
0.4443 −0.569
0.4457 −0.607
0.4485 −0.667
0.4500 −0.696
0.4515 −0.719
0.4542 −0.742
0.4554 −0.754
0.4568 −0.756
0.4595 −0.754
0.4609 −0.757
0.4623 −0.747
0.4654 −0.714
0.4668 −0.706
0.4712 −0.674
0.4726 −0.653
0.4742 −0.643
0.4772 −0.618
0.4786 −0.606
0.4800 −0.593

2441589 +
0.2676 +0.139
0.2690 +0.131
0.2717 +0.096
0.2731 +0.067
0.2759 +0.039
0.2773 +0.021
0.2801 −0.030
0.2815 −0.067
0.2842 −0.127
0.2856 −0.154
0.2884 −0.190
0.2898 −0.214
0.2926 −0.262
0.2940 −0.280
0.2967 −0.336
0.2981 −0.359
0.3009 −0.410
0.3023 −0.448
0.3051 −0.498
0.3065 −0.518
0.3092 −0.554
0.3106 −0.583
0.3134 −0.616
0.3148 −0.636
0.3176 −0.642
0.3190 −0.645
0.3217 −0.637
0.3231 −0.643
0.3259 −0.634
0.3273 −0.638
0.3342 −0.609
0.3356 −0.604
0.3384 −0.584
0.3398 −0.573

2441597 +
0.2651 +0.182

0.2668 +0.153
0.2718 +0.052
0.2736 −0.012
0.2776 −0.126
0.2794 −0.192
0.2817 −0.260
0.2851 −0.407
0.2868 −0.446
0.2884 −0.495
0.2900 −0.560
0.2938 −0.636
0.2956 −0.676
0.2972 −0.685
0.2988 −0.714
0.3004 −0.725
0.3021 −0.736
0.3059 −0.772
0.3075 −0.757
0.3091 −0.775
0.3107 −0.763
0.3124 −0.768
0.3158 −0.761
0.3174 −0.768
0.3191 −0.735
0.3206 −0.738
0.3253 −0.719
0.3269 −0.710

2441605 +
0.2399 −0.040
0.2419 −0.129
0.2426 −0.177
0.2446 −0.234
0.2453 −0.247
0.2474 −0.322
0.2506 −0.445
0.2513 −0.494
0.2534 −0.568
0.2541 −0.593
0.2565 −0.664
0.2572 −0.677
0.2596 −0.717
0.2610 −0.753
0.2631 −0.787
0.2638 −0.811
0.2655 −0.835
0.2662 −0.850

0.2690 −0.865
0.2700 −0.865
0.2725 −0.865
0.2739 −0.877
0.2767 −0.885
0.2774 −0.885
0.2802 −0.888
0.2809 −0.886
0.2836 −0.869
0.2850 −0.855
0.2870 −0.865
0.2884 −0.854
0.2902 −0.828
0.2916 −0.822
0.2943 −0.803
0.2954 −0.794

2441898 +
0.4317 +0.358
0.4375 +0.325
0.4406 +0.266
0.4433 +0.227
0.4461 +0.049
0.4490 −0.093
0.4519 −0.228
0.4552 −0.389
0.4581 −0.468
0.4611 −0.585
0.4637 −0.721
0.4665 −0.765
0.4694 −0.771
0.4721 −0.795
0.4750 −0.823
0.4777 −0.854
0.4803 −0.858
0.4863 −0.829
0.4890 −0.811
0.4919 −0.794
0.4947 −0.768

2441949 +
0.3486 +0.072
0.3511 +0.006
0.3532 −0.064
0.3568 −0.158
0.3599 −0.251
0.3631 −0.320

0.3661 −0.416
0.3698 −0.507
0.3733 −0.581
0.3766 −0.617
0.3797 −0.646

2442126 +
0.5287 +0.239
0.5306 +0.216
0.5319 +0.192
0.5331 +0.164
0.5405 +0.047
0.5416 +0.028
0.5428 +0.009
0.5439 −0.007
0.5451 −0.037
0.5506 −0.249
0.5519 −0.297
0.5531 −0.347
0.5543 −0.408
0.5554 −0.447
0.5567 −0.480
0.5579 −0.511
0.5590 −0.559
0.5630 −0.679
0.5641 −0.691
0.5652 −0.710
0.5664 −0.735
0.5675 −0.748
0.5685 −0.764
0.5697 −0.764
0.5708 −0.769
0.5720 −0.777
0.5731 −0.780

2442216 +
0.4260 +0.384
0.4272 +0.390
0.4287 +0.411
0.4337 +0.410
0.4351 +0.411
0.4364 +0.422
0.4379 +0.429
0.4432 +0.395
0.4444 +0.391
0.4455 +0.407
0.4469 +0.387

0.4520 +0.382
0.4536 +0.382
0.4552 +0.380
0.4567 +0.347
0.4615 +0.273
0.4628 +0.256
0.4641 +0.242
0.4654 +0.229
0.4702 +0.106
0.4714 +0.065
0.4730 +0.030
0.4743 −0.010
0.4796 −0.178
0.4809 −0.238
0.4822 −0.311
0.4834 −0.357
0.4847 −0.420
0.4895 −0.599
0.4907 −0.631
0.4919 −0.666
0.4934 −0.715
0.4948 −0.727
0.4963 −0.754
0.5011 −0.801
0.5027 −0.809
0.5041 −0.812
0.5069 −0.814
0.5083 −0.811
0.5130 −0.798
0.5142 −0.801
0.5156 −0.799
0.5170 −0.788
0.5234 −0.735
0.5248 −0.725
0.5264 −0.715
0.5277 −0.706

2442220 +
0.4521 +0.361
0.4541 +0.302
0.4572 +0.214
0.4589 +0.166
0.4619 +0.075
0.4643 −0.022
0.4675 −0.166
0.4691 −0.220
0.4725 −0.386

0.4737 −0.433
0.4766 −0.528
0.4783 −0.591
0.4815 −0.663
0.4833 −0.714
0.4867 −0.789
0.4884 −0.812
0.4919 −0.863
0.4938 −0.893
0.4969 −0.898
0.4983 −0.905
0.5019 −0.886
0.5035 −0.872
0.5066 −0.857
0.5093 −0.846

2442224 +
0.4342 +0.340
0.4357 +0.320
0.4386 +0.294
0.4405 +0.255
0.4440 +0.138
0.4455 +0.090
0.4477 +0.032
0.4490 −0.023
0.4507 −0.092
0.4554 −0.252
0.4569 −0.329
0.4586 −0.412
0.4630 −0.575
0.4662 −0.663
0.4678 −0.699
0.4708 −0.788
0.4723 −0.810
0.4755 −0.853
0.4772 −0.867
0.4806 −0.885
0.4817 −0.884
0.4849 −0.886
0.4884 −0.889
0.4920 −0.873
0.4945 −0.862

2442255 +
0.3815 +0.301
0.3876 +0.295
0.3952 +0.298

0.4017 +0.303
0.4135 +0.295
0.4183 +0.314
0.4225 +0.314
0.4274 +0.276
0.4323 +0.245
0.4369 +0.184
0.4421 +0.111
0.4467 −0.019
0.4537 −0.208
0.4593 −0.342
0.4635 −0.473
0.4693 −0.630

2442256 +
0.3455 −0.309
0.3508 −0.477
0.3557 −0.648
0.3615 −0.734

2442275 +
0.3544 +0.239
0.3565 +0.198
0.3586 +0.153
0.3608 +0.120
0.3634 +0.014
0.3656 −0.073
0.3671 −0.167
0.3701 −0.343
0.3727 −0.469
0.3748 −0.571
0.3770 −0.661
0.3793 −0.739
0.3817 −0.830
0.3837 −0.877
0.3860 −0.930
0.3881 −0.958
0.3910 −0.976

2442278 +
0.4478 +0.177
0.4492 +0.163
0.4505 +0.149
0.4520 +0.103
0.4534 +0.035
0.4590 −0.188
0.4604 −0.254
0.4617 −0.312
0.4630 −0.394
0.4645 −0.481
0.4700 −0.643
0.4715 −0.672
0.4729 −0.707
0.4742 −0.723
0.4756 −0.749
0.4808 −0.808
0.4821 −0.820
0.4836 −0.844
0.4850 −0.861
0.4864 −0.867
0.4877 −0.859
0.4944 −0.823

2442299 +
0.2966 +0.081
0.2977 +0.059
0.3004 +0.034
0.3014 +0.009
0.3024 −0.015
0.3053 −0.116
0.3063 −0.135
0.3073 −0.161
0.3083 −0.209
0.3103 −0.298
0.3113 −0.329
0.3122 −0.369
0.3132 −0.401
0.3171 −0.479
0.3181 −0.513
0.3199 −0.552

2442307 +
0.2694 +0.475
0.2705 +0.420
0.2733 +0.266
0.2747 +0.166
0.2775 +0.071
0.2785 +0.049
0.2809 −0.057
0.2816 −0.099
0.2840 −0.188
0.2851 −0.220
0.2872 −0.303
0.2885 −0.337
0.2916 −0.455
0.2926 −0.518
0.2952 −0.580
0.2966 −0.622
0.2996 −0.703
0.3003 −0.728
0.3038 −0.808
0.3052 −0.835
0.3087 −0.852
0.3097 −0.862
0.3135 −0.859
0.3145 −0.848
0.3177 −0.821
0.3191 −0.828
0.3233 −0.798
0.3246 −0.792
0.3281 −0.753
0.3295 −0.753
0.3330 −0.695

2442454 +
0.6262 +0.220
0.6272 +0.232
0.6284 +0.223
0.6297 +0.220
0.6352 +0.209
0.6366 +0.219
0.6376 +0.229
0.6390 +0.223
0.6401 +0.214
0.6470 +0.212
0.6484 +0.203
0.6500 +0.225
0.6515 +0.235
0.6533 +0.234
0.6543 +0.233
0.6588 +0.246
0.6609 +0.236
0.6623 +0.255
0.6637 +0.251
0.6654 +0.272
0.6706 +0.277
0.6716 +0.261
0.6734 +0.261