A tudományos közlés művészete

VIII. Speciális közlések 1.: Műszerpályázatok

Kiss László
MTA KTM Csillagászati Kutatóintézet

Miről lesz szó?

- Hogyan működik a (csillagászati) nagyműszer-használat?
- Tik-TAC-OPC
- Egy távcsőidő-pályázat részletei:
  - technikai részletek
  - legfontosabb komponensek
    - mit tegyünk és mit ne tegyünk
- Példák (ESO, AAT, ...)
- 2-4m-es kategória: OPTICON

Hasznos olvasmány: Kervella & Garcia, 2007, Preparing an ESO proposal, New Astr. Rev., 51, 658

Hozzáférés dedikált tudományos eszközökhöz

- Földi távcső, űrtávcső, szuperszámítógép, laboratóriumi műszerek: hasonló elvek mentén kialakított pályázati rendszer.
- Zárt és nyitott struktúrák: felértékelődő együttműködő partnerek
- Évente egy-négy alkalommal beadható pályázatok, technikailag standardizált kivitelben
- Rögzített ügymenet, jellemzően 4-6 fős bíráló bizottságok
- Visszajelzés jövőbeli pályázatokhoz, az eredmény értékeléséhez

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Productivity and impact of astronomical facilities: A statistical study of publications and citations

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Key words publications, bibliography – telescopes

In calendar years 2001 and 2002, 20 journals of astronomy and astrophysics published 7768 papers that reported or analyzed observations at wavelengths from meter radio to ultrahigh energy gamma rays. In the three calendar years after publication, these papers were cited more than 97 000 times, according to the Science Citation Index/Web of Science data base (the most complete, we believe, available), for an average rate of 4.19 citations per paper per year. We slice these data up several ways, by subject matter, wavelength band, and the telescopes (etc.) used. Most of the results will not surprise: There are hot topics (cosmology, exoplanets) and not so hot topics (binary stars, planetary nebulae). Papers reporting space-based data are cited a bit more often and radio papers a bit less often than optical papers, but multi-wavelength studies do the best. The total number of telescopes involved is surprisingly large, about 330 optical and infrared (mostly ground based but including HST), 109 radio (including COBE and VSOP satellites), and 90 space based (including satellites, interplanetary probes, things carried on rockets, balloons, the Shuttle, and so forth). The superstar telescopes are (mostly) the ones you would expect, though having the most papers does not always go with largest ratios of citations per paper. HST produces the largest number of optical papers, but SDSS the most highly-cited ones, while the VLA is responsible for the largest number of radio papers and the most highly cited (apart from balloon-borne CMB observatories), and among things that fly, the most recent tend to dominate both paper and citation numbers. If you have to choose, it is probably better to opt for a small telescope on a well-supported site than a larger one with less support, and service to the community, in the form of catalogues and mission definitions, is rewarded, at least in citation counts, if not always in other ways.

Table 2 Papers and citations by subdiscipline.

Topic	Papers (2001)	Citations (2001)	Papers (2002)	Citations (2002)	Total Papers	Citations per Paper per Year
Cosmology	155	5450	157	4254	312	8.91
Clusters of Galaxies	196	4471	220	3385	416	5.42
Gamma Ray Bursts	64	1817	65	1127	129	6.44
Active Galaxies/Nuclei	462	7682	412	5377	874	4.25
Normal Galaxies	513	10947	439	6687	952	5.21
Milky Way	72	1513	92	1415	164	5.19
Neutron Stars/Black Holes	353	5077	330	4254	683	3.95
SN/ Remnants	129	1662	146	1526	275	3.35
Interstellar Medium	342	4053	309	2613	651	2.89
Star Formation/YSOs	163	2762	212	2597	375	4.10
Star Clusters	209	3001	195	2151	404	3.63
Stars	456	4979	408	3641	864	2.85
Brown Dwarfs	29	855	43	1103	72	7.96
Planetary Nebulae	75	838	72	509	147	2.57
White Dwarfs	24	393	43	341	67	3.37
Cataclysmic Variables	125	857	155	857	280	1.76
Binary Stars (other)	159	1067	185	1035	344	1.77
Solar System	168	2534	227	2549	395	3.76
Exoplanets/SETI	48	1423	59	1038	107	6.64
Service	111	2903	102	2410	213	8.42
TOTAL	3853	48213	3871	48869	7724	4.19

Table 4: Optical papers (2001 + 2002) and citations (2002–2004 + 2003–2005) by telescope and location.

Telescope	Citations	Papers	C/P
Hubble Space Telescope	10044	728.7	13.8
New, Large			
Gemini	277	17.4	15.9
Magellan	140	9.4	14.9
HET	45	6.3	7.1
Mauna Kea			
Keck	4560	234.2	19.5
Subaru	766	59.2	12.9
CFHT	1169	80.3	14.6
U. Hawaii 2.2 m	422	37.0	11.4
UKIRT	959	80.2	12.0
IRTF	547	49.2	11.1
ESO			
VLT	2566	176.5	14.5
3.6 m	673	71.5	9.4
NTT	926	78.0	11.9
2.2 m	342	43.5	7.9
other	954	193.7	4.9

Cerro Tololo			
Blanco 4 m	727	60.4	12.0
other	720	79.4	9.1
Kitt Peak			
Mayall 4 m	797	53.5	14.9
WIYN	323	33.4	9.7
MDM	381	24.9	15.3
other	960	68.1	14.1
Australia			
Anglo-Australian Tel.	2720	114.1	23.8
MSSO 2.3 m	315	23.9	13.1
other	157	16.4	9.6
Apache Point ARC	142	18.2	7.8
Calar Alto			
3.5 m	317	32.6	9.7
2.2 m	319	29.9	10.7
other	114	15.3	7.4
Mount Hamilton (Lick)			
3 m	683	35.7	19.1
other	146	11.4	12.8
McDonald			
2.7 m	399	34.1	11.7

Special Purpose Facilities			
SDSS	3271	80.3	40.7
2MASS	1344	91.7	14.7
DENIS	146	14.7	9.9
Schmidt Surveys	1574	96.3	16.3
Microlens Searches	1017	70.4	14.4
Automated Photometrics Tels.	269	44.5	6.0
Refractors, meridian circles, and Interferometers	253	24.8	10.2
1.5–1.82 m	380	102.2	3.7
$\leq$ 1.5 m	1907	344.9	5.5
Unidentified	426	43.6	9.8
TOTAL OPTICAL	51916	4381.5	11.8

Az ötlettől az adatokig

- Milyen és melyik műszer a legmegfelelőbb?
  - fénygyűjtőképesség, műszerezettség, nyílt/zárt hozzáférés, obszervatórium asztroklímája, stb.
- Határidő: általában tavasszal és ősszel vannak a pályázati fordulók a szemeszteres beosztású műszereken (pl. Opticon, ESO, AAT)
- Legalább egy hónappal korábban kezdjünk bele a pályázati információk összegyűjtésébe!
- ESO - Call for Proposals (CfP): az aktuálisan pályázható műszerek és egyéb megkötések részletes leírása
- Cél: a TAC (Time Allocation/Assignment Committee) vagy OPC (Observing Programmes Committee) meggyőzése

Call for Proposals

ESO Period 86

Proposal Deadline: 31 March 2010,
12:00 noon Central European Summer Time

Issued 26 February 2010

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Call for Proposals to be supported via the OPTICON Trans-National Access programme in semester 2010B

Within the OPTICON contract under FP7, its Trans-National Access programme will move towards even greater integration and coordination of the participating telescopes. As part of this move, the funding for the programme will be pooled, and the proposals for OPTICON time at all the telescopes will be reviewed together by a single international Time Allocation Committee (TAC) to ensure network-wide competition and uniform review criteria.

The call for observing time at night time telescopes supported by the OPTICON Trans-National Access is now open with a deadline of 1200 UT on 1 March 2010. The semester runs is centred on September 2010 to February 2011, but there are small variations at some telescopes to accommodate their normal semesters and maximise scheduling flexibility.

Proposals must meet certain EU and OPTICON rules for formal eligibility concerning team membership. Broadly speaking, the PI and at least half of the Co-I's must be working at Institutions outside the country/ies which own the telescope. Please also note the prohibition on projects which could be applied for by the PI using the national mechanisms open to them.

Not all of the telescopes in the existing access programme are offering time in this call. The maximum number of nights available at each facility for this semester is as follows:

http://www.astro-opticon.org/fp7/tna/opticon_call.html

Nights available at each Facility in semester 2010B

Facility	Maximum nights available	Semester 2010B	Notes
Isaac Newton Telescope (ORM, La Palma)	12	1 Aug – 31 Jan	
Nordic Optical Telescope (ORM, La Palma)	14	1 Oct - 31 Mar	Do not request dates in September 2010
Liverpool Telescope (ORM, La Palma)	50 hours	1 Aug – 31 Jan	Request hours. Robotic Telescope
Telescopio National Galileo (ORM, La Palma)	7	1 Aug – 31 Jan	Can be service or visitor mode. Fractional nights can be requested in 1 hour blocks, assume 9hr per night
Carlos Sanchez Telescope (Obs del Tiede, Tenerife)	10	1 Sep – 28 Feb	
CAHA 2.2m (Calar Alto)	5	1 Jul – 31 Dec	
CAHA 3.5m (Calar Alto)	3	1 Jul – 31 Dec	
Anglo-Australian Telescope. (Siding Spring)	10	1 Aug – 31 Jan	Scientifically viable proposals that are not supported by the OPTICON TAC will be considered by the AAT TAC, but would not attract EC travel support
Observatoire de Haut Provence 1.93m	7	1 Sep – 28 Feb	
Telescope Bernard Lyot (Pic du Midi)	7	1 Sep - 28 Feb	
Canada France Hawaii Telescope (Mauna Kea)	4	1 Aug – 31 Jan	
UK Infrared Telescope (Mauna Kea)	6	1 Aug – 31 Jan	Flexible observing mode
MPG/ESO 2.2 (La Silla)	7	1 Oct – 31 Mar	Do not request dates in September 2010

Az ötlettől az adatokig

- Pályázattípusok (ESO, de máshol is hasonlók):
  - normál és nagy programok (normal & large programmes); alapértelmezett a normál, LP: >100h, akár 4 szemeszteren keresztül
  - DDT (Director's Discretionary Time): hirtelen és váratlan események. Össz idő ~5%-a, bármikor és külön OPC.
  - ToO (Target of Opportunity): hirtelen, de bizonyos szempontból előrejelezhető események. ESO: NP és LP-vel együtt.
  - GT (Guaranteed Time): pl. műszerépítő csoportok garantált távcsőideje. Chilei kutatók 10% garantált idővel.
- Phase I és Phase II

A bizottság(ok)

- Kisebb obszervatóriumokban egy db TAC (pl. Angol-Ausztrál Obszervatórium, 7 fő)
- ESO: 4 panel (A, B, C, D), azokon belül hat fős szubpanelek, összesen 10, azaz 60 csillagász foglalkozik a szemeszterenként bejövő ~1000 pályázattal.
- A TAC-tagok mindegyike bírálja. Egyes bizottságok külső referee-ket is felkérnek. Triázs-rendszer: előre kialakított pontszámok, a TAC ülésen viszont módosíthatók.
- Tényleges közös diszkusszió 5-10 perc a TAC-ülésen. Itt dől el végleg egy pályázat sorsa.
- Jellemző túljelentkezés: <4 m: 1-2; 4m-es kategória: 2-3, >4 m: 3-6; űrtávcsövek: 3-20

Értékelési szempontok:

- a projekt tudományos értéke, várható hozzájárulás a tudományos ismeretekhez. Brilliáns ötletek vs. inkrementális adatgyűjtés vs. “fishing expeditions”!
- annak demonstrálása, hogy a kért idő és erőforrások a program megvalósítását lehetővé teszik; részletes stratégia az adatok elemzésére
- korábbi eredmények a pályázott obszervatórioum műszereivel
- a siker megalapozott esélyeinek demonstrálása (a technikai megvalósítást nem a TAC-tagok ellenőrzik)

Technikai részletek

- Legtöbb helyen: LaTeX formanyomtatvány
- De pl. Gemini: Phase I Tool (PIT) - Java alapú célszoftver, hasonlít az ESO Phase II Proposal Preparation-re
- Szigorúan betartandó oldallimitek
- Service mode, Visitor mode (Gemini: Queue, Classical schedule)

Komponensek

- Cím és absztrakt: ezzel kezdődik (és sokszor végződik...) a meggyőzés
- Pár példa

European Organisation for Astronomical Research in the Southern Hemisphere

Organisation Européenne pour des Recherches Astronomiques dans l'Hémisphère Austral
Europäische Organisation für astronomische Forschung in der südlichen Hemisphäre

VISITING ASTRONOMERS DEPARTMENT • Karl-Schwarzschild-Straße 2 • D-85748 Garching bei München • e-mail: visas@eso.org • Tel. : +49-89-32 00 64 73

APPLICATION FOR OBSERVING TIME

PERIOD: **81**

VISA-CNRS GTO

Important Notice:

By submitting this proposal, the PI takes full responsibility for the content of the proposal, in particular with regard to the names of CoIs and the agreement to act according to the ESO policy and regulations, should observing time be granted

1. Title

Category: **D–4**

Granulation on the red supergiant star VX Sgr

2. Abstract

We propose to study the complexity of the red supergiant star VX Sgr which is expected to have a highly heteregoneous photosphere with bright hot spots due to the convection pattern. The reconstructed images will be compared to very recent hydrodynamical models of convection in cool supergiant atmospheres.

APPLICATION FOR OBSERVING TIME PERIOD: **86A**

Important Notice:

By submitting this proposal, the PI takes full responsibility for the content of the proposal, in particular with regard to the names of CoIs and the agreement to act according to the ESO policy and regulations, should observing time be granted

1. Title Category: **C–7**

Eccentric circumstellar disks in young small-separation binary systems

2. Abstract / Total Time Requested

Total Amount of Time: 0 nights VM, 20 hours SM

Viscosity plays a crucial role in the evolution of circumstellar disks, hence an empirical determination of its value can be used to test planet formation theories. Circumstellar disks in binaries become eccentric due to the perturbations of the companion star, depending on the viscosity and binary separation. Here we want to use this dependence to study the viscous properties of a selected protoplanetary disks via modeling line profile distortions of CO fundamental band ro-vibrational transitions for the first time. We propose to observe 5 binaries with small separations in the Taurus star-forming region, for which the CO lines will be measured in 4 different slit positions. This unique dataset will be analysed with spectro-astrometry, thus inferring disk viscosity prescription via measuring departures from the symmetric Keplerian double-peaked line profiles.

Anglo-Australian Time Assignment Committee

Anglo–Australian Observatory, PO Box 296 Epping NSW 1710
Contact: Helen Woods, hmw@aao.gov.au, +61 (02) 9372 4812

Semester:
AATAC Reference:
Date Stamp:

1. **Names and Institutions of Applicants** — **Possible Observer?**

Zoltan Balog (Steward Observatory, University of Arizona)	yes
Laszlo L. Kiss (University of Sydney)	yes
Gyula M. Szabo (University of Szeged/University of Sydney)	yes

Principal Contact: Laszlo L. Kiss **Postal Address:**
Telephone: 02 9351 4058 School of Physics A28, University of Sydney, NSW 2006
Email: laszlo@physics.usyd.edu.au

Are the observations required for the completion of a student's thesis? no
Name of Student(s): Name of Supervisor(s):

2. Project Title: Debris Disks at 50 - 80 Myr: Spectroscopic survey of NGC 2451A and B

Summary of Scientific Objectives:

Debris disks in open clusters with different ages offer a unique opportunity to establish a timescale of formation of terrestrial planets. Our *Spitzer*/IRAC-MIPS observations in the field of NGC 2451A and B (two nearby open clusters aged 50 to 80 Myr) have shown that several objects reside here exhibiting IR excess characteristic of debris disk systems. This age range represents the end of planet building but is well within the period of elevated collisional activity among the young planets and planetoids. However, the lack of reliable membership information renders the impact of the *Spitzer* survey results rather limited. Here we propose a spectroscopic survey to separate members of NGC 2451A and B from the field star population and determine accurate physical parameters of the two clusters. Membership probabilities will be assigned to every star in the field on the basis of clumpiness in the phase space of physical parameters, such as $T_{\rm eff}$, $\log\ g$, [M/H], $V_{\rm rad}$. Our results will enable the identification of debris disk systems with accurate ages and distances, which will be important input parameters for model calculations of terrestrial planet formation.

Request for Observing Time at the CHARA Array

For the Period

April 1 – August 31, 2007

Type only within boxed areas immediately after hyphens

A. P.I. Name – L.L. Kiss

B. Co-P.I. Names – T.A. ten Brummelaar, J. Monnier, T. Bedding, P. Tuthill, M. Ireland

C. Observing Participants – J. Monnier

D. Proposal Title – The origin of Long Secondary Periods of red giants: binarity, rotation or pulsation?

E. Abstract (Clearly and briefly state your scientific goals and indicate if this is a PhD thesis project) –

We propose snapshot observations of pulsating red giants stars with Long Secondary Periods (LSPs), whose origin is a great mystery of stellar astrophysics. This phenomenon is the last unexplained high-amplitude variability in ordinary stars, and has resisted all attempts at a solution. Proposed theoretical models include non-radial g-mode pulsations, rotational modulation of strongly distorted stellar shapes, ellipsoidal variability in close binary systems, magnetic starspots and circumstellar extinction variations due to episodic dust formation. Many of these models can be directly tested by the proposed interferometric observations, most notably the ones that require strong departures from spherical symmetry: binarity, rotation and non-radial oscillations. The results will give new insights into the birth of the asymmetric planetary nebulae, which have been suggested to be descendants of the LSP red giants.

Komponensek

- Kért műszer, idő összesítése, pályázók és egyéb adminisztratív adatok

3. Run | Period | Instrument | Time | Month | Moon | Seeing | Sky Trans. | Obs.Mode

Run	Period	Instrument	Time	Month	Moon	Seeing	Sky Trans.	Obs.Mode
A	81	AMBER	1.5h	may	n	$\leq 1.2''$	CLR	s
B	81	AMBER	1.5h	may	n	$\leq 0.8''$	CLR	s
C	81	AMBER	1.5h	may	n	$\leq 0.8''$	CLR	s
D	81	AMBER	1.5h	may	n	$\leq 0.8''$	CLR	s
E	81	AMBER	1.5h	jul	n	$\leq 1.2''$	CLR	s
F	81	AMBER	1.5h	jul	n	$\leq 0.8''$	CLR	s
G	81	AMBER	1.5h	jul	n	$\leq 0.8''$	CLR	s
H	81	AMBER	1.5h	jul	n	$\leq 0.8''$	CLR	s

4. Number of nights/hours — Telescope(s) — Amount of time

a) already awarded to this project:

b) still required to complete this project:

5. Special remarks:

6. Principal Investigator: A. Chiavassa (GRAAL, F, chiavass@graal.univ-montp2.fr)

Col(s): X. Haubois (LESIA, F), B. Plez (GRAAL, F), S. Lacour (Sydney, AUS), E. Josselin (GRAAL, F), G. Perrin (LESIA, F), P. de Laverny (OCA, F), S. Meimon, L. Mugnier (ONERA, F), W.D. Cotton (NRAO, USA), B. Mennesson (JPL/NASA, USA), P. Tuthill, L. Kiss (Sydney, AUS), T. Verhoelst (Leuven, B), S. Ridgway (NOAO, USA), B. Freytag (CRAL, F), D. Schertl, T. Driebe, K.-H. Hofmann, K. Ohnaka, G. Weigelt (MPIfR, D)

7. Is this proposal linked to a PhD thesis preparation? State role of PhD student in this project

Yes / A. Chiavassa is PhD student. Data important for PhD thesis and student will lead the project /

Komponensek

- “Scientific rationale” (Scientific justification): a legfontosabb rész
  - mik a pályázat szakterületének legfontosabb nyitott kérdései?
  - hogyan fog a projekt ezekhez hozzájárulni?
  - rövid mondatok, struktúrált szöveg, limitált irodalmi hivatkozások
  - egy-két fontos ábra: pl. modellszámítás, korábbi “pilot observations” eredménye
  - a TAC-tagok között jó eséllyel nincs a szűk terület szakembere

Tippek, trükkök

- Legyenek friss irodalmi hivatkozások
- Tiszta, egyszerű fogalmazás, a célok legyenek kiforrottak
- Ha korábban elutasított pályázat megy újra, legyen reakció a visszautasításhoz mellékelt visszajelzésre
- Ha várható folytatás, legyen megemlítve
- Ha kapcsolódik máshol, mással végzett mérésekhez, legyenek röviden részletezve
- Ha léteznek másodlagos eredmények ugyanabból az adatokból, említsük meg a lehetőséget (“két legyet egy csapásra” stratégia)
- Színes ábrát csak akkor használjunk, ha biztos, hogy a bírálók megkapják színesben. Biztos látható a különbség a piros és kék vonal között fekete-fehér nyomtatásban?

Tippek, trükkök

Érdemes szem előtt tartani a pályázat írásakor:

- “Kit fognak érdekelni az eredmények?”
- “Megvan a szükséges elméleti apparátus?”
- “Megvan a szükséges tapasztalat az adatok elemzéséhez?”
- Statisztika
- Célpontok kiválasztása

Komponensek

- “Immediate objective”: mi fog pontosan történni az adatokkal?
- “Telescope and observing mode justification”: miért csak azzal a műszerrel lehet elvégezni. Publikus archívumokat ellenőrizni!
- “Strategy for data reduction and analysis”: a kutatócsoport tapasztalatai, ki mihez ért és milyen módszerek lesznek bevetve

Komponensek

- “Time justification”: Exposure Time Calculator, Integration Time Calculator, S/N Calculator, stb.

Anglo-Australian Observatory

AAOmega Multi-Object Spectrograph S/N Calculator

Band: V Magnitude: 21.5 Image FWHM("): 1.5

Moon phase: Dark Sky subtraction: Dedicated sky fibres Data frames: 3

Camera: Blue Grating: 580V Read speed: NORMAL Readout amps: 1

Calculation:

- (•) Calculate SNR, **enter exposure time** (minutes): 240
- ( ) Calculate exposure time, **enter SNR/Angstrom** : 10
- ( ) Calculate exposure time, **enter SNR/pixel** : 10

Calculate Reset

GMOS-N ITC

In the four sections of this form, select the appropriate astronomical source, instrument, telescope, observing condition and observation parameters. Click on the **calculate button** (calculate) at the bottom of any section to submit the parameters from all the sections to the server or the **reset button** (reset) to reset all parameters to their defaults. The results are reported in a separate web page that can be resized and printed.

General guidance on use of the Integration Time Calculators (ITCs) is available; specific help on each section of the form is available by following the *more info* and other (blue highlighted) links. Note: at this time Netscape 6 and 6.01 do not work with web forms. Changes, enhancements and bugs within the ITC are listed chronologically.

Astronomical source definition

Spatial profile and brightness:*(more info)*
Choose one of point, extended or user-defined source profile and the brightness in any filter/wavelength

- (•) **Point source** (nominal PSF) with spatially integrated brightness 20.0 mag (e.g. 19.3 mag or 2e-17 W/m^2/um)
- ( ) **Extended source** having ...(When this option is selected the image quality selection in section 3 of the ITC is disabled.)
  - ( ) Gaussian profile with full width half maximum (including seeing) of 1.0 arcsec and spatially integrated brightness of 20 mag (e.g. 19.3 mag or 2e-17 W/m^2/um)
  - (•) Uniform surface brightness 22.0 mag / sq arcsec (e.g. 21.6 mag / sq arcsec)
  - [X] Exponential profile with spatially integrated brightness 20.0 mag (e.g. 19.3 mag or 2e-17 W/m^2/um) and half-light radius of 3.0 arcsec *(disabled)*
  - [X] Elliptical r^(1/4) profile with spatially integrated brightness 20.0 mag (e.g. 19.3 mag or 2e-17 W/m^2/um) and half-light radius of 3.0 arcsec *(disabled)*
- [X] **User-defined 2D image** read from file *(disabled)*

with the above **brightness normalisation** applied (•) in filter R (0.67um) band or [X] at a wavelength 0.55 micron *(latter option disabled)*

Spectral distribution: *(more info)*
Choose one SED, the redshift and extinction

- ○ Library spectrum of a non-stellar object: spiral galaxy (Sc)
- ◉ Library spectrum of a star with spectral type: A0V
- ○ Single emission line at wavelength 0.656 um with line flux 5.0e-17 ergs/s/cm^2 and line width 500.0 km/s on a flat (in wavelength) continuum of flux density 1.0e-17 ergs/s/cm^2/A
- ○ Model black body spectrum with temperature 10000 K
- ○ Model power-law spectrum (S_lambda = lambda ^ -1.0)
- ○ User-defined spectrum read from file (size < 1MB) Browse...

with the **spectrum mapped** to a redshift ◉ z = 0.0 or a radial velocity ○ v = 0.0 km/s

...and subject to **dust reddening** by a foreground screen (see more info on the extinction law) having a visual extinction of Av = 0 mag *(disabled)* ✕

reset calculate

Instrument (GMOS North) and telescope configuration

Instrument optical properties:*(more info)*

Grating: none (imaging) Spectrum central wavelength: nm

Filter: g' (475 nm) Focal plane unit: none

Detector properties:*(more info)*

CCD type: ◉ Hamamatsu ○ original EEV array

Detector binning (spatial direction): ◉ 1 (no binning), ○ 2 or ○ 4 pixels

Detector binning (spectral direction): ◉ 1 (no binning), ○ 2 or ○ 4 pixels

Read noise of 4.1 e- per binned pixel

Dark current of 0.7 e-/hr per unbinned pixel

Telescope configuration:*(more info)*

Mirror coating: ○ aluminium ◉ silver

Instrument port: X up-looking (2 reflections) ◉ side-looking (3 reflections)

Wavefront sensor for tip-tilt compensation: ○ PWFS ◉ OIWFS

reset calculate

Observing condition constraints

Note: you should read the explanatory notes for the meaning of the percentiles and to ensure that your selected conditions are appropriate for the observing wavelength. Further details are available on the observing condition constraints pages.

Image quality:	○ best 20%-ile	◉ 70%-ile	○ 85%-ile	○ any
Sky transparency (cloud cover):		◉ 50%-ile	○ 70%-ile	○ 90%-ile ○ any
Sky transparency (water vapour):	○ best 20%-ile	○ 50%-ile	○ 80%-ile	◉ any
Sky background:	○ best 20%-ile	◉ 50%-ile	○ 80%-ile	○ any
Typical air mass during observation:	○ <1.2	◉ 1.5	○ 2.0	

reset calculate

Details of observation

Calculation method: *(more info)*
Select imaging or spectroscopy and the calculation method (note: second method is not available for spectroscopy)

(•) Imaging or ( ) spectroscopy ...

(•) Total S/N ratio resulting from [1] exposures each having an exposure time of [900] secs and with a fraction [1.0] of exposures that observe the source

( ) Total integration time to achieve a S/N ratio of [5] using an exposure time for each exposure of [900] secs and with a fraction [1.0] of exposures that observe the source

Analysis method: *(more info)*

(•) Software aperture that gives 'optimum' S/N ratio and with a sky aperture [5] times the target aperture

( ) Software aperture of diameter (or slit length) [2] arcsec and with a sky aperture [5] times the target aperture

For Integral Field Unit (IFU) spectroscopy only ...

Normally set sky aperture above to be 500x target aperture when using the smaller IFU field for sky measurement.

(•) Select an individual IFU element offset by [0.0] arcsec from the center

( ) Select multiple IFU elements along a radius with offsets of [0.0] to [3.0] arcsec

Output:

For spectroscopy, (•) autoscale or ( ) specify limits for plotted spectra (lower wavelength [0.500] um and upper wavelength [0.900] um)

reset calculate

Komponensek

- “Report on previous use”
- “Related publications by the applicants”
- “List of targets”, (“ESO Archive”)
- “Scheduling requirements”
- “Instrument configuration”

Összefoglalás

- Egy jó távcsőidő-pályázatnak szükséges, de nem elégséges összetevője a kiváló ötlet
- Nagy munka jól elkészíteni az anyagot
- Siker esetén az időjárás mindig közbeszólhat
- Sikertelenség esetén újra kell próbálkozni (2-3-ast meghaladó túljelentkezés mellett legtöbb pályázat sikertelen!)