(Day 07)

(ESO) Observing Proposals

(Credit: ESO/Y. Beletsky)

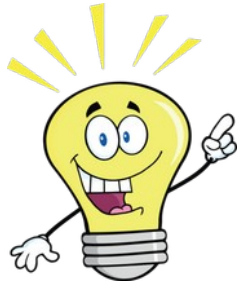
Today

"Is it just me or are these review panels getting a lot tougher?"

(Credit: The Grants Writer Handbook)

1. Basics of ESO observing proposals
2. The ESO proposal form
3. Some examples

First, there was the idea!



- Get to know your field: read, discuss, go to conferences
- Make connections between your field and other areas
- What are people planning for the future?

Build your knowledge!
Theory, Predictions, Observations

What are the important questions?

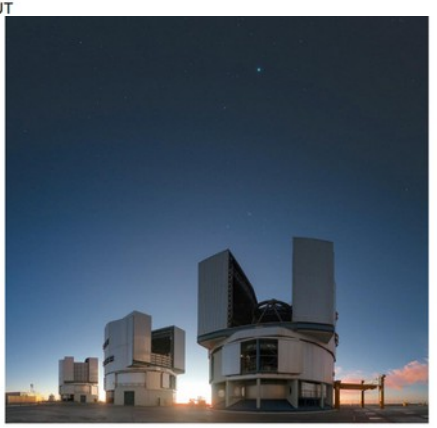
How can you answer those questions?

Call for proposals

- Observatories serve a certain community through calls for observing proposals
- Every semester, year, or continuous
- The “call for proposals” is a binding document
- Time Allocation Committees rank the submitted proposals
- At ESO:
  - Calls are issued twice a year
  - The observing semester is called “period”
  - Preparation and submission of the proposal is called “phase 1”
  - OPO (Observing Programmes Office) manages the process

Southern African Large Telescope

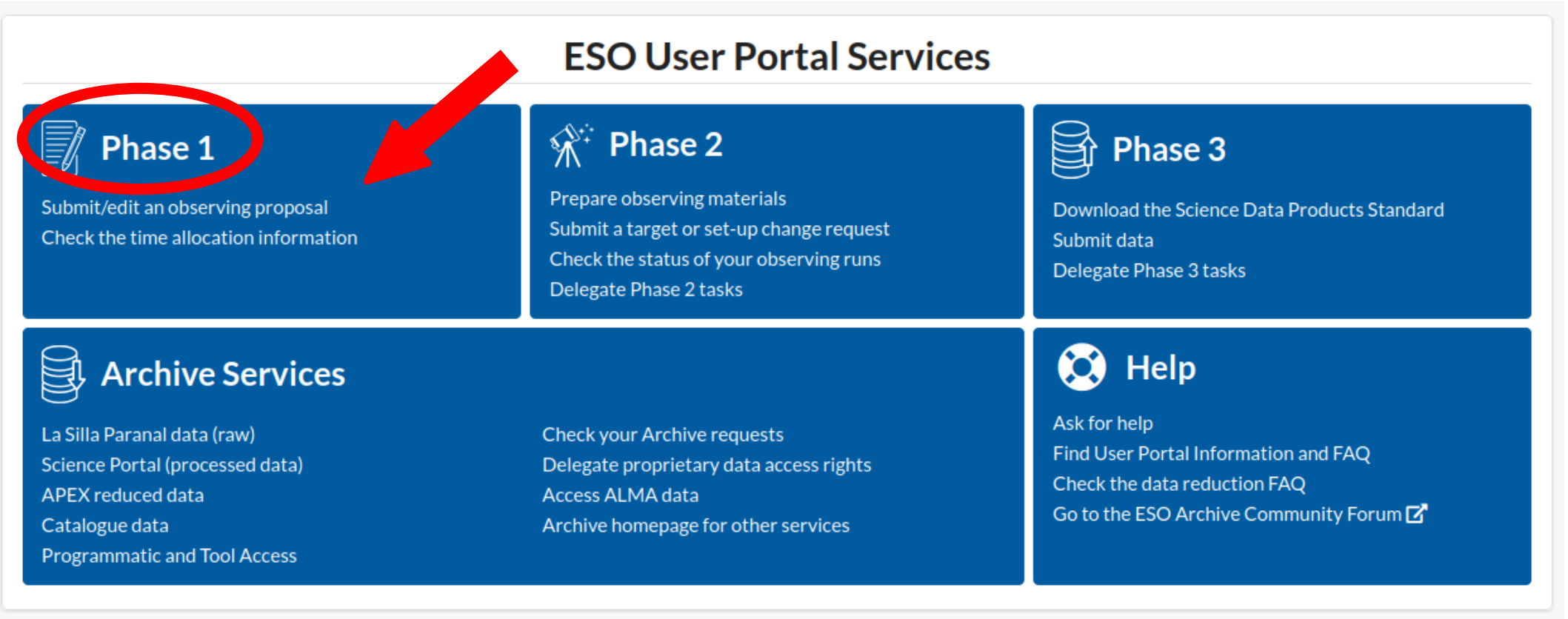
Title:	Proposal Information for SALT Call for Proposals: 2021 Semester 2 Phase 1 Deadline: 30 July 2021, 16:00 UT Phase 2 Deadline: 15 October 2021, 16:00 UT
Author(s):	SALT Ast Ops
Doc Number:	2430AB0001
Version:	1.0
Date:	23 June 2021
Keywords:	
Approved:	Encarni Romero Colmenero (Astronomy Operations Manager)



ESO Call for Proposals – P109

Proposal Deadline: 23 September 2021, 12:00 noon CEST

ESO Phase 1


ESO User Portal Services
Phase 1
Submit/edit an observing proposal
Check the time allocation information
Phase 2
Prepare observing materials
Submit a target or set-up change request
Check the status of your observing runs
Delegate Phase 2 tasks
Phase 3
Download the Science Data Products Standard
Submit data
Delegate Phase 3 tasks
Archive Services
La Silla Paranal data (raw)
Science Portal (processed data)
APEX reduced data
Catalogue data
Programmatic and Tool Access
Check your Archive requests
Delegate proprietary data access rights
Access ALMA data
Archive homepage for other services
Help
Ask for help
Find User Portal Information and FAQ
Check the data reduction FAQ
Go to the ESO Archive Community Forum

ESO P1 Tool

Your Proposals

New Proposal

Sort by:

title

- 108.22GJ Beryllium ab ..
  - Summary
  - Title & Abstract
  - Category
  - Investigators
  - Rationale
  - Targets
  - Runs
  - Targets Runs
  - Observations
  - Remarks & Justifications
  - Awarded & Future Time Requests
  - Previous Usage
  - Applicants' Publications

APPLICATION FOR OBSERVING TIME

Clone | Help | pdf

Principal Investigator: Rodolfo Smiljanic

Programme ID: *108.22GJ* · **Programme Type:** Normal · **Cycle:** P108 · **Status:** Valid

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.

TITLE: Beryllium abundances and mixing in post-mass transfer objects

ABSTRACT

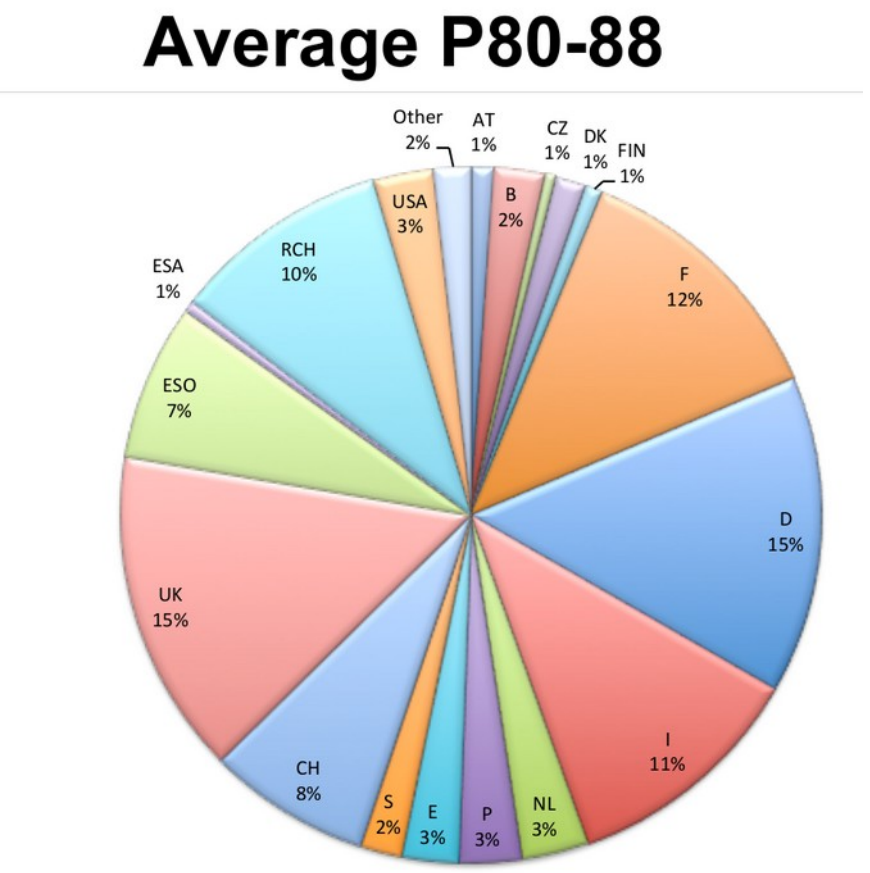
We want to provide novel observational constraints on the internal hydrodynamical mixing processes of post mass-transfer low-mass stars in binary systems. Only few observational investigations of the effects of binary interaction on the internal structure of stars exist. A previous analysis of 118 Sun-like stars found 4 objects heavily depleted in beryllium, a light element easily destroyed by mixing. All four objects have been found to be in binary systems with a companion that went through the AGB phase, with evidence of previous mass transfer. The deep mixing that destroyed Be is likely related to the binary interaction and/or the mass transfer. Here, we propose to determine Be in six barium dwarfs (s-process enriched main-sequence stars created by mass transfer from a more massive companion that went through the AGB before becoming a white dwarf). This analysis will provide new insights on the effects of binary interaction on the internal mixing properties of low-mass stars.

SCIENTIFIC CATEGORY

D1 Main sequence stars

ESO Proposals, the basics

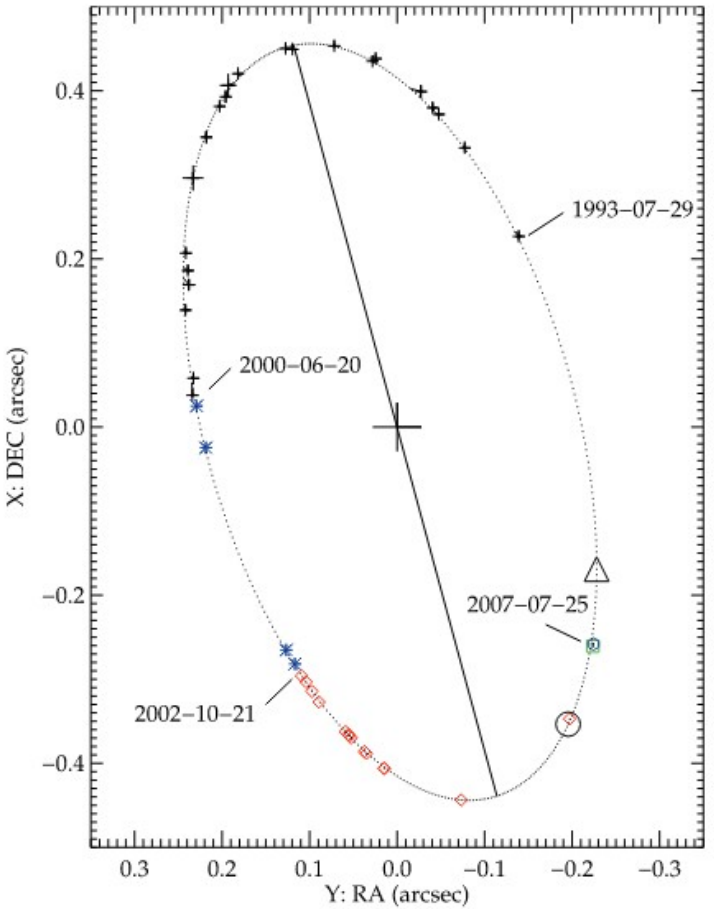
- Open, but astronomers in member states have **priority**
  - It is not about the affiliation of the PI
  - A Non-Member State Proposal has 2/3 or more of the co-Is not in ESO member states
  - For two equally rated proposals, the member state one has priority
- Host-state (Chile) proposals:
  - The P.I. is affiliated to a Chilean institute
  - Up to 10% of time at ESO telescopes
  - At least ½ of the VLT projects need cooperation between Chile and European
  - Chilean proposals can still be rejected



(Credit: ESO)

Proposals types

- Proposal types (check per instrument):
  - **Normal program** (<100 h in one semester)
  - **Monitoring program** (2-4 periods, <100h)
  - **Large program** (1-4 periods, >100h, major breakthough; requested once a year)
  - **Guaranteed Time Observations (GTO)**: VM only, for consortia that built instruments
  - **Calibration program:** up to 3% time; poorly calibrated modes or for specialized software
  - **Director's Discretionary Time (DDT):** up to 5% of the time – unexpected event, highly competitive topic, quick follow
  - **VLT-XMM:** ESO awards ~80h w/ XMM-Newton

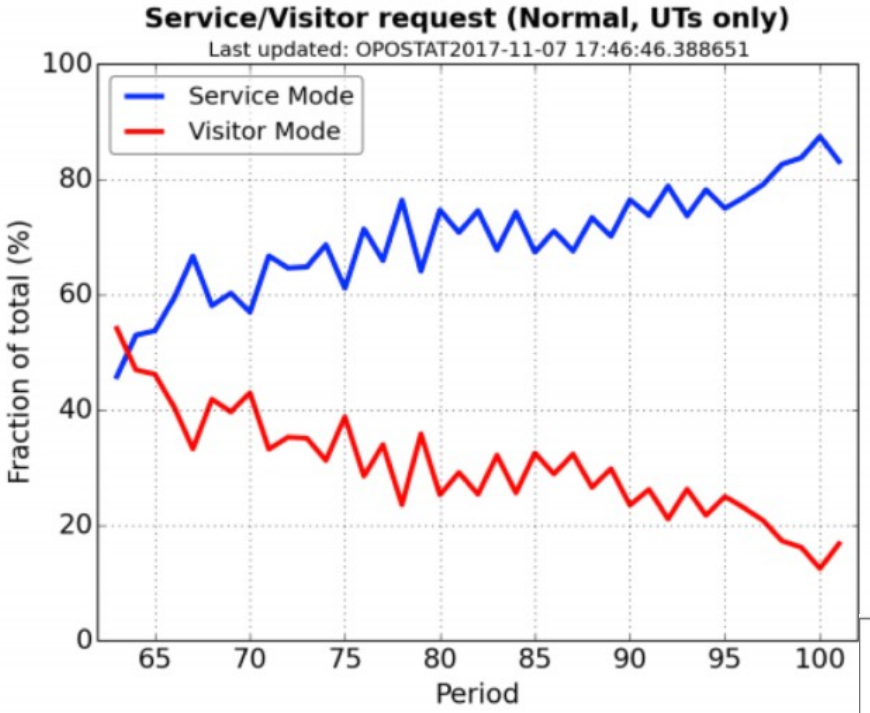


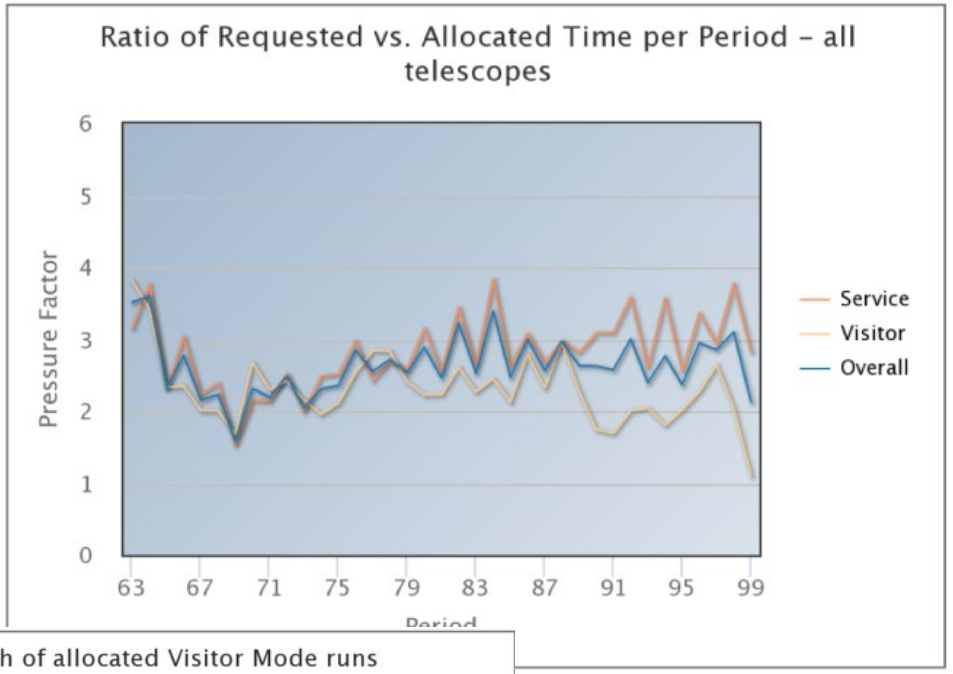
(Seifahrt et al. 2008)

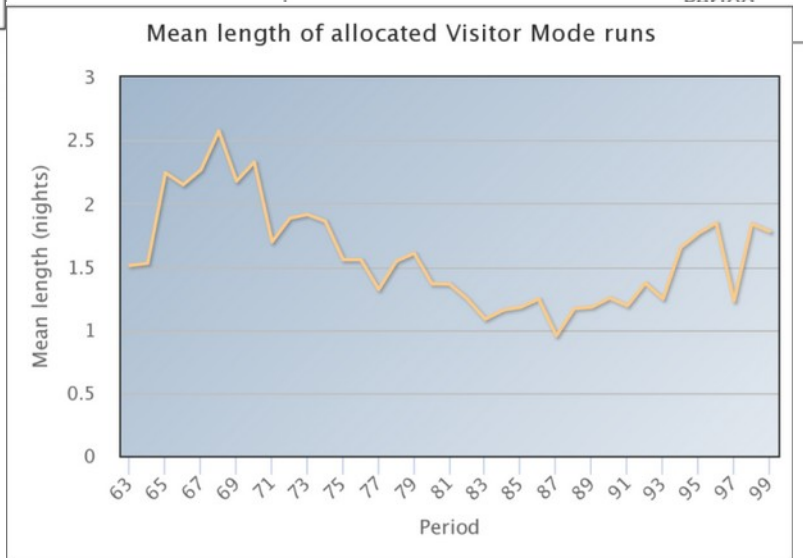
Observing modes

- **Visitor mode** (nights)
  - 1 night = 10h (Apr.-Sep.); = 8h (Oct.-Mar.)
  - Mixed modes possible
  - VM gets specific nights. 1 person only travels
  - Backup program for worse conditions
  - Weather or technical losses not compensated
  - La Silla – VM only, at least 3 nights per run
- **Service mode** (hours)
  - Phase 2 package (OBs, charts, ReadMe)
  - Priority rank (A, B, C). Conditions as requested
- **Designated Visitor Mode**: On ESO decision for VM requesting < 1 night

(Credit: ESO)


Service/Visitor request (Normal, UTs only)
Last updated: OPOSTAT2017-11-07 17:46:46.388651
Service Mode
Visitor Mode
Fraction of total (%)
Period


Ratio of Requested vs. Allocated Time per Period – all telescopes
Pressure Factor
Service
Visitor
Overall


Mean length of allocated Visitor Mode runs
Mean length (nights)
Period

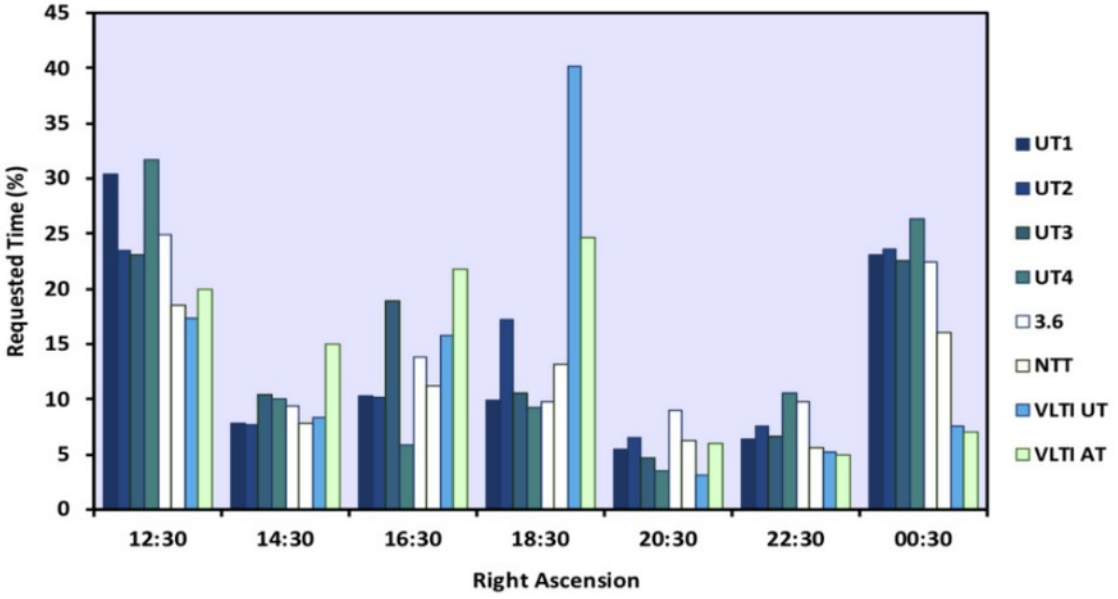
Targets of Opportunity (ToO)

- To follow-up transient phenomena of great scientific interest (see ToO policy here)
- Sudden event, “immediate” observation
- Any program type, except monitoring
- **DDT ToO:** within 48h (+ emergency procedure)
- **Normal ToO:** generic OB without target or coordinates (but w/ instrument configuration)
- Trigger sent with updated OB when necessary
- **Rapid response mode (RRM):** observations within 4 hours of the event; interrupts non-time critical SM or VM observations
- **ToO Hard:** asap (48h) of trigger (or fixed night)
- **ToO Soft:** triggered >48h before execution, flexibility ±1 day

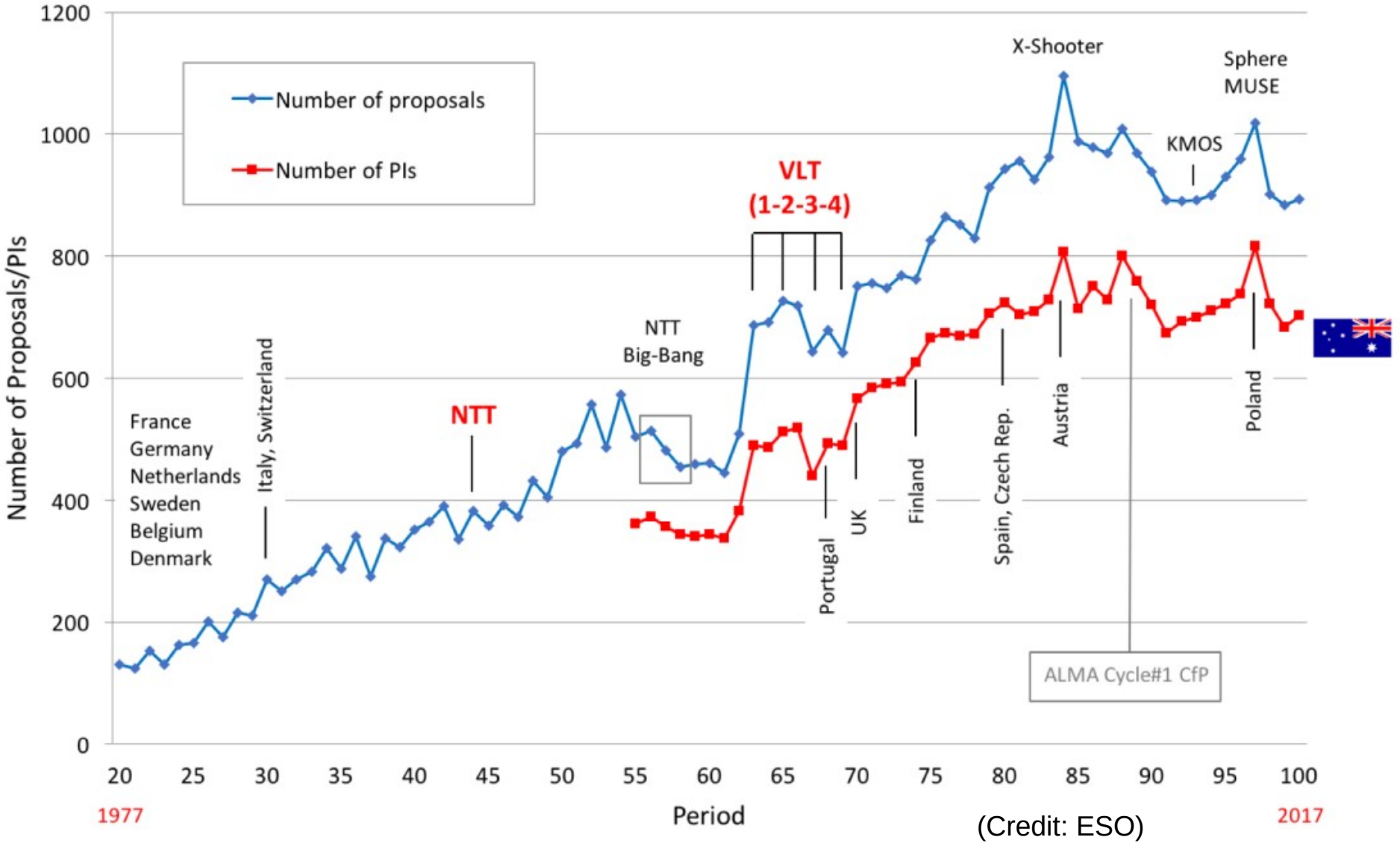
(Credit: Jin Ma / Beijing Planetarium)

The pressure is high

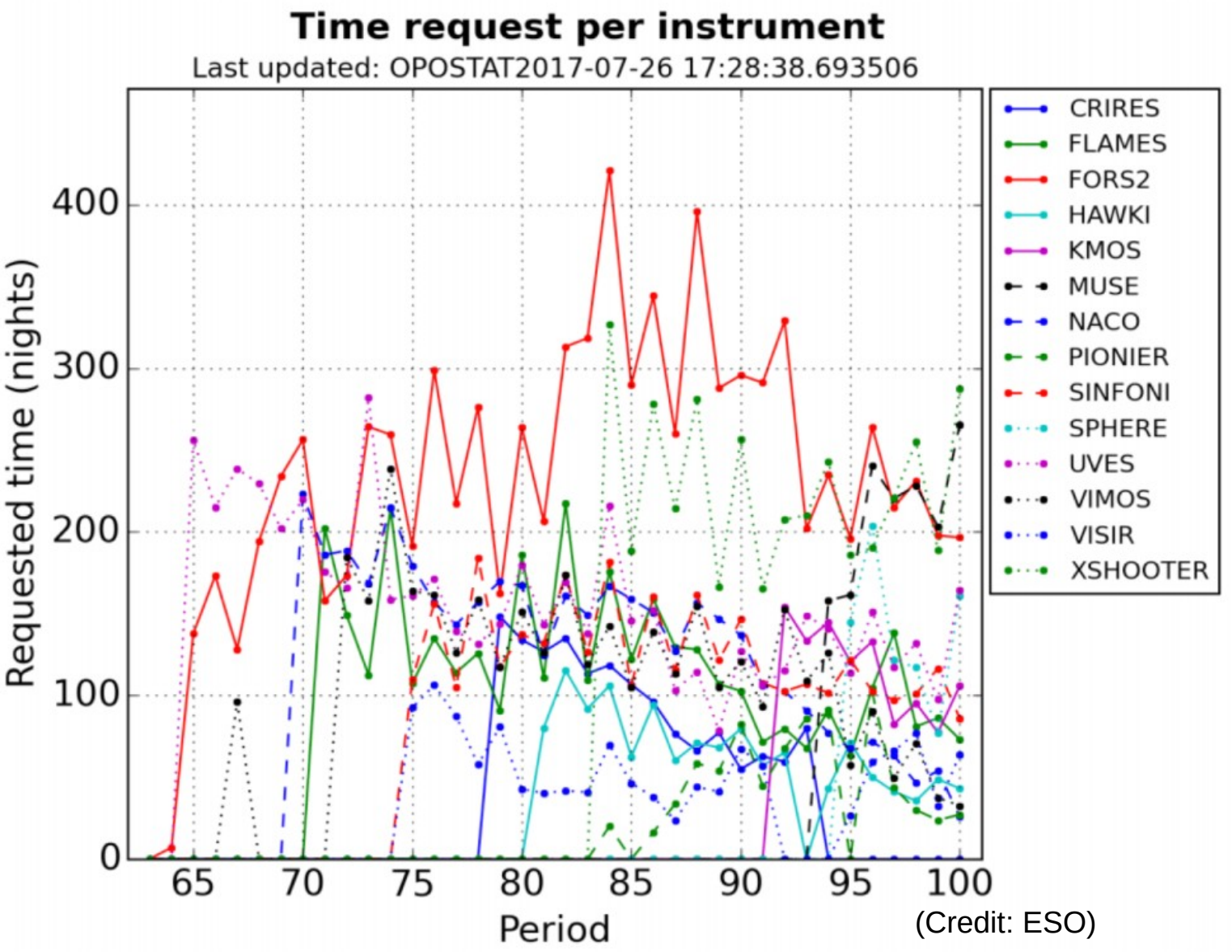
- ESO receives ~900 proposals per semester
- ~3200 nights requested / ~1070 available
- ~10% goes to GTO
- Pressure per telescope/instrument can reach ~5 (or ~8 in certain RAs)
- Large programs ~ 20% acceptance rate
- Pressure on ToO proposals is very high
- (and 5% for DDT)



(P109 prediction - Credit: ESO)

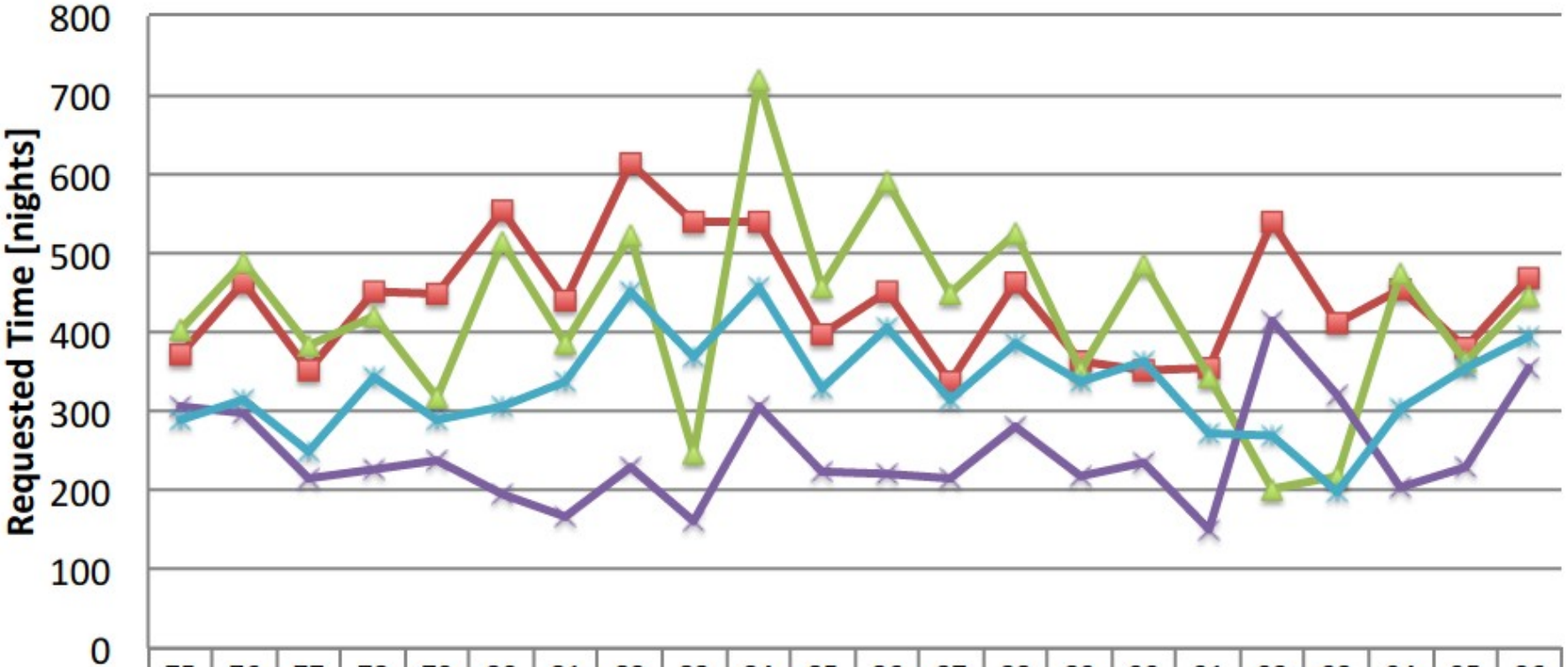

Number of proposals
Number of PIs
Number of Proposals/PIs
1200
1000
800
600
400
200
0
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
1977
Period
2017
France
Germany
Netherlands
Sweden
Belgium
Denmark
Italy, Switzerland
NTT
NTT
Big-Bang
VLT
(1-2-3-4)
Portugal
UK
Finland
Spain, Czech Rep.
Austria
X-Shooter
KMOS
Sphere
MUSE
Poland
ALMA Cycle#1 CfP

(Credit: ESO)


Time request per instrument
Last updated: OPOSTAT2017-07-26 17:28:38.693506
Requested time (nights)
0
100
200
300
400
65
70
75
80
85
90
95
100
Period
CRIRES
FLAMES
FORS2
HAWKI
KMOS
MUSE
NACO
PIONIER
SINFONI
SPHERE
UVES
VIMOS
VISIR
XSHOOTER

(Credit: ESO)

Requested Telescope Time (VLT)



	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
UT1	371	463	351	450	448	554	439	614	541	540	397	451	337	463	363	351	354	540	412	455	381	469
UT2	403	489	383	418	318	514	385	523	247	719	456	589	447	524	352	486	343	202	217	475	363	446
UT3	305	298	214	226	237	194	167	228	160	307	224	220	214	279	218	235	150	414	319	203	229	353
UT4	290	313	249	342	287	305	337	450	368	458	328	406	314	387	337	363	271	270	197	303	354	393

(Credit: ESO)

Questions?

(Credit: Shutterstock)

So you want to apply?

- You have an idea, you chose the targets, and know the type of data you need
- **Read the call for proposals! Read the instrument manual!**
- Check instrument modes and calibrations. Play with the Exposure Time Calculator (exposure times and saturation limits).
- Check if your target has been observed: archive.eso.org
- Check the list of protected targets:
  - GTO targets
  - Survey targets (all completed now)
- Do not forget about overheads!

ESO Call for Proposals – P109

Proposal Deadline: 23 September 2021, 12:00 noon CEST

Writing

- Make it understandable to non experts
- Be clear and explicit
- The referees spend a short time in each proposal. If it is confusing, you lost
- What is the question? What you will learn? What if the data does not show what you want?
- Avoid generic statements, be specific
- Justify what you are requesting (telescope time, instrument, conditions)
- Show that what you are proposing is feasible
- Avoid jargon specific to your area
- Choose figures that are relevant and support your case

The abstract

- Make a good first impression
- This is **THE** part that everybody will read
- Here you have to sell the exciting idea you had!
- Make sure it includes the most important information
- Revisit and rewrite it many times, until it is perfect
- Include the purpose, the relevance, the key hypothesis, the expected outcome

Define the run(s)

- Different runs for: different instrument, observing mode (VM, SM, pre-imaging), observing conditions (seeing, sky)
- VM: different epochs split in different runs
- Runs can be evaluated separately

- /alt: alternative run (?)
- Fractions of time: 0.5h or 1n=2H1 or 1n=2x1H2
- Time is the total time (including overheads and extra calibrations)

RUNS

Run	Period	Instrument	Tel. Time	Constraints	Mode	Type	Tel. Setup	Proprietary Time	Time Constr.
1. Run 1	106	UVES	11h00m	**FLI:** 70% • **Turb.:** 85% • **pwv:** 30mm • **Sky:** CLR • **Airmass:** 1.5	SM	Normal	UT2	12m	

3. Run	Period	Instrument	Time	Month	Moon	Seeing	Sky	Mode	Type
A	93	FORS2	4h	may	n	0.8	PHO	s	
A/alt	93	FORS2	3n=2x1+2H2	may	n	0.8	PHO	v	
B	93	VIMOS	2n=2x1	jun	n	0.6	CLR	v	
C	93	EFOSC2	3n	aug	n	0.8	THN	v	
D	93	NACO	0.4n	may	n	0.8	THN	v	
E	93	AMBER	1h	apr	n	1.4	THN	s	
F	93	MIDI	1h	apr	n	n	THN	s	

Observations

- **OB:** “Unit” that contains the procedure to observe a target (prepared in phase 2)
- Includes overheads (pointing, acquisition, additional calibrations, reading detector) and exposure time
- **Recommended maximum of 1 hour**
- In SM, if conditions degrade within the 1 hour, your OB will be repeated
- >1 hour possible with waiver request (in phase 2)
- Conditions for OB >1 hour are guaranteed in the first hour only

13. Instrument configuration

Period	Instrument	Run ID	Parameter	Value or list
99	FLAMES	A	Combined: UVES + GIRAFFE-860+LR02 MEDUSA	
99	FLAMES	A	GIRAFFE	standard setup LR02 427.2
99	FLAMES	A	UVES	standard setup Red 860
99	UVES	B	DIC-2	Standard setting: 390+860

Normal Run 1: Run 1 · P108 · UVES · SM

Tel. Time: 13h00m

1. HD 89948, 10:22:21.860, -29:33:21.560

Tel. Time: 1h00m

OS 1

Tel. Time:	3600 s
Repeat:	1 x
Total Tel. Time:	**3600s**

SLIT

Telescope Overheads:	360 s

DIC 1 (std)

Dic Mode Central Wlgts	346+580
Blue Slit Width	1
Red Slit Width	1
Blue Readout Mode	225kHz,1x1,low
Red Readout Mode	225kHz,1x1,low
Integration Time:	3000 s
Instrument Overheads:	240 s
Signal/Noise:	120

2. HD 50264, 06:51:12.507, -29:34:32.323

Tel. Time: 2h00m

OS 1

Tel. Time:	3600 s
Repeat:	2 x
Total Tel. Time:	**7200s**

SLIT

Telescope Overheads:	360 s

DIC 1 (std)

Dic Mode Central Wlgts	346+580
Blue Slit Width	1
Red Slit Width	1
Blue Readout Mode	225kHz,1x1,low
Red Readout Mode	225kHz,1x1,low
Integration Time:	3000 s
Instrument Overheads:	240 s
Signal/Noise:	85

Overheads and exposure time

- Overhead is the time used for telescope and instrument configuration and other technical needs (e.g., detector reading)
- Overhead must be taken into account in the total time you will request
- See online table
- Use the P2-demo tool to create a test OB
- Estimate the exposure time with the ETC of your instrument
- See here

Overheads

La Silla

Telescope	Instrument	Action	Time (minutes)
3.6m		Preset	5
3.6m		Preset, within a few degrees from previous target	2
3.6m		Focussing	10
	HARPS	Fibre automatic redefinition, object centering on fibre, start guiding	1
	HARPS	Instrument configuration	0.5
	HARPS	Readout+writing image to disk (416 kpx/s speed)	0.38
	HARPS	Readout+writing image to disk (104 kpx/s speed)	1.45
	HARPS	Minimum time between exposures	0.53
	HARPS	HARPS/EGGS or HARPS/CES instrument change	1
	HARPS	Polarimeter insertion: circular	0.25
	HARPS	Polarimeter insertion: linear	0.5
	HARPS	Polarimeter insertion: switching linear/circular	0.25
	HARPS	Polarimeter rotation	0.2
NTT		Preset	10
	SOFI	Imaging	~30% of integration time
	SOFI	Spectroscopy	~25% of integration time
	EFOCS2	Readout + writing file to disk: slow, 1x1	2.67
	EFOCS2	Readout + writing file to disk: slow, 2x2	1.33
	EFOCS2	Readout + writing file to disk: normal,1x1	1.17
	EFOCS2	Readout + writing file to disk: normal, 2x2	0.67
	EFOCS2	Readout + writing file to disk: fast, 1x1	0.40
	EFOCS2	Readout + writing file to disk: fast, 2x2	0.17

Lunar phase and time justification

Lunar Phase and Constraints Justification

Given the brightness of our target stars, lunar phase is not critical to our observations. Our observing constraints are relatively loose (clear sky, 70% FLI, seeing 1.3").

Time Justification

For our purposes we need final spectra with SNR per pixel of ~120 at 3130 Å.

We have used the UVES exposure time calculator version P106.1, taking into accounts the magnitude range encompassed by our sample stars (i.e., V from 7.55 to 10.08 mag). Assuming an airmass of 1.2, seeing equal to 1.3", a slit of 1.0", a template spectrum Kurucz G2V, and moon FLI of 50%. Exposure times were set to 3000 s (which, with 10 min of overhead add up to an observing block of 1 hour).

To obtain the require SNR we need 1 OB for HD 89948 (SNR ~ 120); 2 OBs for HD 50264 and HD 76225 (SNR ~ 85 in each OB), and 4 OBs for HD 106191 (SNR ~ 50 in each OB).

The 9 OBs result in a program that needs 9 hours of telescope time.

8. Justification of requested observing time and observing conditions

Lunar Phase Justification: The lunar phase has little infuence on the final S/N of the spectra.

Time Justification: (including seeing overhead) Our sample is composed of 2 turn-off stars of the globular cluster NGC 6752. They have V $\sim$ 17.2 and T_{eff} $\sim$ 6300 K. Exposure times were calculated with the UVES ETC version 3.2.13, assuming a spectral type G0, an airmass of 1.3, a seeing of 1.2″, the 1.0″slit, and aiming at S/N = 130 at 777nm.
For each star, a total of 20 hours of exposure time is necessary to obtain the required S/N (20 exposures of 1 hour each) with a CCD binning of 2×2. Including the overheads (10 min per exposure: 6 min for pointing, 2 min for centering, ~1 min for UVES setup and $\sim$ 1 min for readout) the total time to complete the program is of $\sim$ 46.7 hours.

Telescope and mode justification

8a. Telescope Justification:

High resolution, high signal-to-noise spectra of turn-off stars in globular clusters (V $\sim$ 17) can only be obtained with 8-10m class telescopes. The exposure times with UVES/VLT to obtain spectra with S/N $\sim$ 130 for our stars is of the order of 20 hours. FLAMES+UVES could be an alternative, but the lower efficiency of the system plus the fact that we would need two different UVES set-ups to cover both the Li and oxygen lines make of UVES a better option. With UVES and the the DIC2 760 setup both Li and the oxygen lines can be simultaneously observed.

9b. Observing Mode Justification (visitor or service):

Visitor mode is preferred, but service mode can be accepted. It is important for the objectives of the proposal that the observed stars cover a range in mass and the spectra have good S/N. In visitor mode, last minute decisions can be made to guarantee this if necessary, by properly selecting the stars to be observed and repeating observations to improve the S/N. Moreover, the selected stars span a good range of RA so that enough targets are available during the whole night.

8b. Observing Mode Justification (visitor or service):

The observations are well suited for service mode. They can be conducted in less than optimal atmospheric conditions, splitting the observations in short OBs, and no important last minute decision is necessary from the observer for the completion of the observations.

Calibrations

- Check the calibration plan for your instrument
- Standard calibrations are provided by the observatory
- Extra calibrations have to be included in the time requested

8c. Calibration Request:

Special Calibration - We intend to obtain spectra with very S/N. To avoid degradation of the S/N during the reduction, we request that 10 flat field are taken during the day time calibration instead of the normal five.

Calibration Request

No special calibration needed.

Data in the archive / GTO

9a. ESO Archive - Are the data requested by this proposal in the ESO Archive (http://archive.eso.org)? If so, explain the need for new data.

Yes. The stars KW418 and KW313 have ESO archive data. These spectra have been published by one of the co-investigators and others. However, at the level of S/N reached ($\sim$ 100), no evidence of chemical difference in the planet-host star was found (see Pace et al. 2008). We propose the observation of new spectra with a higher S/N ratio ($\geq$ 300) to definitely answer whether there is any peculiarity in the planet host stars in the cluster or not.

Duplication with ESO Science Archive

No UVES observations of our targets are available in the ESO archive.

GTO & Survey Target Duplication Justification

The are no GTO or Public Survey observations on-going with UVES, thus no duplication.

Target list

- The online form is now different and resolve targets using Simbad
- Need: Run, target/field, coordinates, total time on target (in hours with overheads and calibrations), magnitude
- Diameter if relevant, can be empty

11. List of targets proposed in this programme

Run	Target/Field	α(J2000)	δ(J2000)	ToT	Mag.	Diam.	Additional info	Reference star
ABC	Cen A	13 25 27.61	-43 01 08.8	8.0	7.9	20 min	NGC 5128	
A	NGC 5139	13 26.8	-47 29	5.0	6.12	1 deg	Omega Cen	
BC	NGC 6058	15 12 51.0	-38 07 33	15.0	11.6		plan. neb.	
B	M 5	15 18 33	+02 04 58	8.0	7		glob. cluster	
C	M 6	17 40.1	-32 13	10.0	2.0	4.3	Butterfly cl.	
C	M 8	18 03 37	-24 23.2	1.0	3.8	30 min	Lagoon neb.	
C	NGC 6822	19 44 57.8	-14 48 11	20.0	18		Barnard's gal.	
D	NGC 7793	23 57 49.9	-32 35 20	20.0	18		Sd gal.	S322120026
E	Alpha Ori	06 45 08.9	-16 42 58	1	-1.4	6 mas	Sirius	
F	Alpha Ori	06 45 08.9	-16 42 58	1	-1.4	6 mas	Sirius	

Other fields of the form

- **Time constraints:** time-critical / need to be done at a certain time (otherwise, comment the macro)
- **Links:** coordinated observations of different runs (comment if not needed)
- **Unsuitable time or time critical** (comment if not needed)
- **Instrument configuration:** must be chosen from the list (uncomment what is needed)
- There are special macros for interferometry and ToO towards the end

4. Specific date(s) for time critical observations:

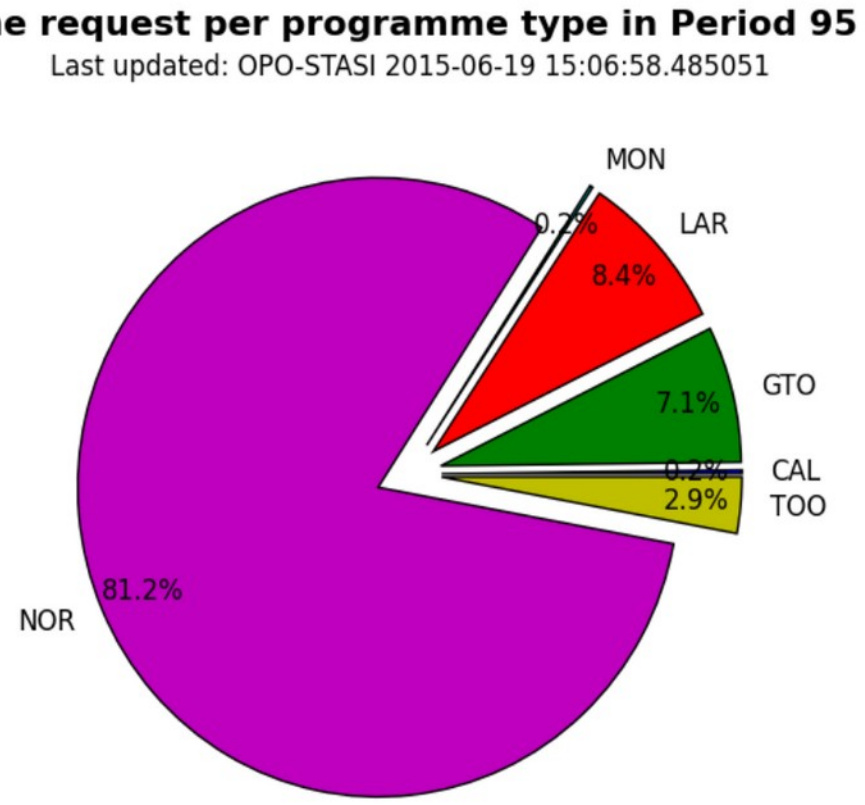
Run	from	to	reason
A	01-apr-12	20-may-12	The M67 targets (NGC 2682) are the most important targets of the programm, as they have the lower mass of the sample. All current literature results show that effects of extra mixing are stronger the lower the mass of the star. They are however, among the faintest targets and require long total exposure time. Due to the RA of M67, the stars are only visible with airmass < 2.0 for a few hours (more than 1.5h) in the beginning of the nights in the indicated period.

ToO Macro (Latex form)

- Change proposal type to TOO
- And uncomment ToO macro

- Give the run ID
- Is it RRM, ToO-hard, or ToO-soft?
- How many targets do you expect?
- How many times you will trigger the ToO per target?

  (Do you want to observe it more than once?)
- And notes can be added if needed

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Questions?

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