



# Applying for Time at the Very Large Telescope Interferometer (VLTI)

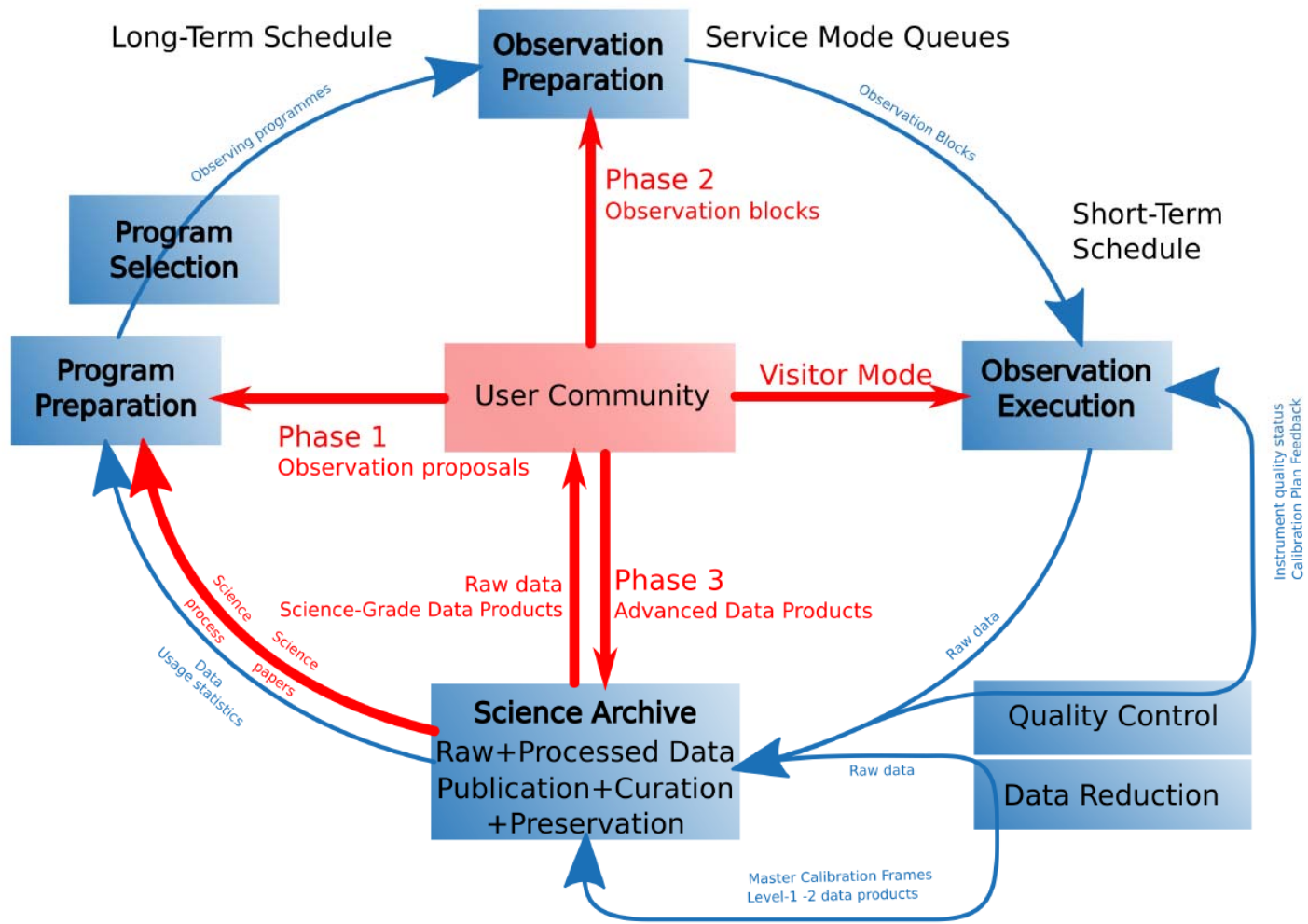
Christian Hummel  
(ESO, User Support Department)





# User Support Team







# Applying for time

- CfP released twice a year, March and September
  - General information and recent changes
  - [www.eso.org/sci/observing/phase1/p100/links.html](http://www.eso.org/sci/observing/phase1/p100/links.html)
- Technical details located in instrument web pages
  - e.g., [www.eso.org/sci/facilities/paranal/instruments/gravity](http://www.eso.org/sci/facilities/paranal/instruments/gravity)
- Exposure time computation and constraints:
  - [www.eso.org/observing/etc/](http://www.eso.org/observing/etc/) (!)
- When feasibility of observation is established:
  - Create/login ESO Portal account
  - Download LaTeX proposal package
- Submit proposal before the deadline!



# Non-member state proposals

- The policy for proposals presented by non-ESO-member state applicants is as follows:
  - a) The term “non-member state proposal” should apply by definition if at least 2/3 of the applicants are not affiliated to ESO member state institutes.
  - b) The following criteria will be adopted in evaluating non-member state proposals:
    - The proposal has to be scientifically outstanding.
    - The required telescope/instrumentation is not available at any other observatory accessible to the applicants.
    - If similar proposals of ESO members states and non-members state proposals are rated equally, preference will be given to the ESO member state proposals.
- Proposals for observing time may be submitted by scientists from any institution. However, ESO will only grant financial support to astronomers affiliated to institutions in the ESO member states.
- See: [www.eso.org/sci/observing/policies/Cou996-rev.pdf](http://www.eso.org/sci/observing/policies/Cou996-rev.pdf)





# Next deadline March 30, 2017

The screenshot shows a web browser window with the URL [www.eso.org/sci/observing/phase1/p100/proposalsopen.html](http://www.eso.org/sci/observing/phase1/p100/proposalsopen.html). The page header features the ESO logo and the tagline "ESO — Reaching New Heights in Astronomy" with a row of international flags. A navigation menu includes "Public", "Science", "User Portal", "Intranet", "Contact", and "Site Map". A search bar is present with the text "Search" and a "Go!" button. The breadcrumb trail reads: "Science Users Information > Observing with ESO Telescopes > Phase 1 Proposals > p100 > Applying for Observing Time". The date "07 Mar 2017" is displayed in the top right corner. A left-hand sidebar lists various categories under "Science Users Information", with "Applying for Observing Time" highlighted. The main content area is titled "Applying for Observing Time" and contains the following text:

Telescope time for ESO telescopes at the La Silla Paranal Observatory is allocated twice a year in periods of 6 months. Allocation periods run from 1 October through 31 March, and from 1 April through 30 September. Applications for observing time on ESO telescopes may only be submitted electronically, and only using the **ESOFORM** proposal submission package obtained from this Web page.

The Call for Proposals describes the conditions under which observing time is offered on the ESO telescopes on the La Silla, Paranal, and Chajnantor (APEX) sites of the Observatory. The document is available in electronic form via this Web page.

**The deadline for Period 100 (1 October 2017 - 31 March 2018) is:**

**30 March, 2017**  
(12:00 noon, Central European Summer Time)

Applications for observation time for the **ESO Telescopes** have to be prepared using the **ESOFORM package**, and **uploaded** via the web. More details are given below. In order to submit proposals for ESO telescopes the ESOFORM package for cycle **100A** should be downloaded.

*Please note that conformity checks are performed at proposal submission time. Hence, proposers should follow the instructions given in the ESOFORM user's manual and to verify a "skeleton" version of their proposal well before the deadline. It is the PI's responsibility to resolve any LaTeX, formatting, figure upload or configuration problems well before the deadline. Please note that ESO cannot provide support beyond 11:00 CEST on the day of the deadline.*





# Data already available?

<b>Science Users Information</b>
Observing Facilities
Future Facilities and Development
Observing with ESO Telescopes
Policies and Procedures
Telescope Time Allocation
Phase 1 Proposals
Phase 2 Preparation
<b>Phase 3</b>
Phase 3 Overview
Phase 3 Policies
Release Manager
Questions and Answers
News and Changes
Data Releases
Data Streams
Public Surveys
Observing Tools and Services
Visiting Astronomers

## Phase 3

### 7 March 2017

- New release of imaging and multi-band catalogue data from the VST Public Survey ATLAS published [\[Read More\]](#)

### 6 March 2017

- Data format specification for PIONIER Interferometric Data available [\[Read More\]](#)

### 20 January 2017

- Image and source list products released from the VISTA Variables in the Via Lactea Survey (VVV) [\[Read More\]](#)

[\[More News...\]](#)

In a nutshell, Phase 3 denotes the process of preparation, validation and ingestion of science data products (SDPs) for storage in the ESO science archive facility, and subsequent data publication to the scientific community. SDPs are produced by 1) principal investigators of ESO observing programmes, and 2) ESO pipelines as part of the quality control (QC) process or from specific, dedicated, re-processing projects for homogeneous raw data sets.

### Phase 3 Quick Links

[Phase 3 Main Level](#)

[ESO SDP Standard \(v5\) \[PDF\]](#)

[APEX Sub-mm Sky Maps \[PDF\]](#)

[Integral Field Spectroscopy: 3D Data Cubes \[PDF\]](#)

[Grantecan products: Spectra and Images \[PDF\]](#)

[Interferometric Data: PIONIER \[PDF\]](#)

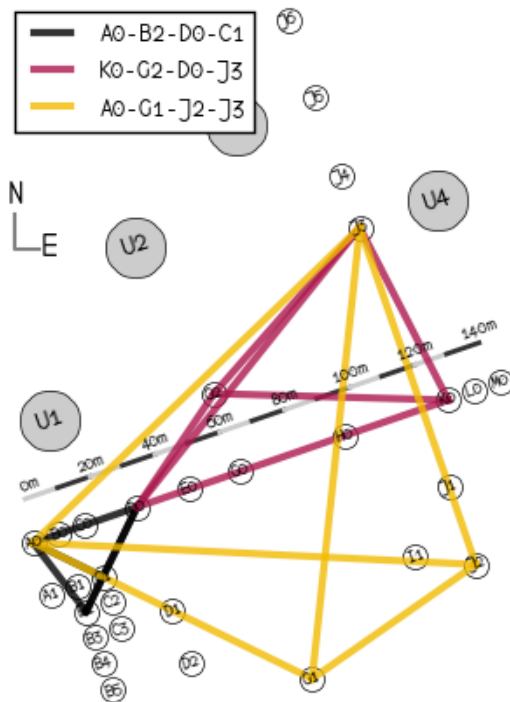
[Phase 3 Release Manager](#)

[Get template for the data release description](#)

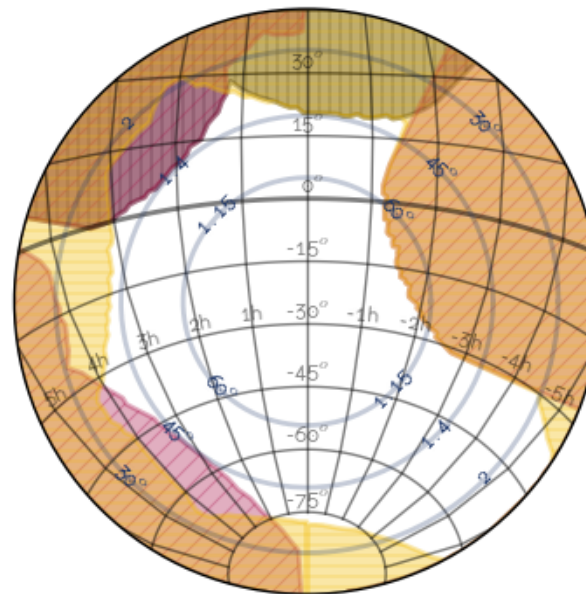
[Contact the Phase 3 Helpdesk](#)

# Available VLT configurations

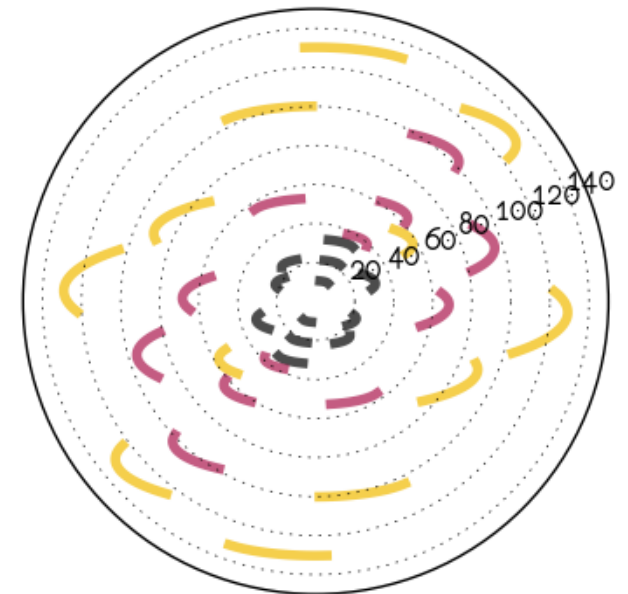
<http://www.eso.org/sci/facilities/paranal/telescopes/vlti/configuration/P96.html.html>



sky shadowing

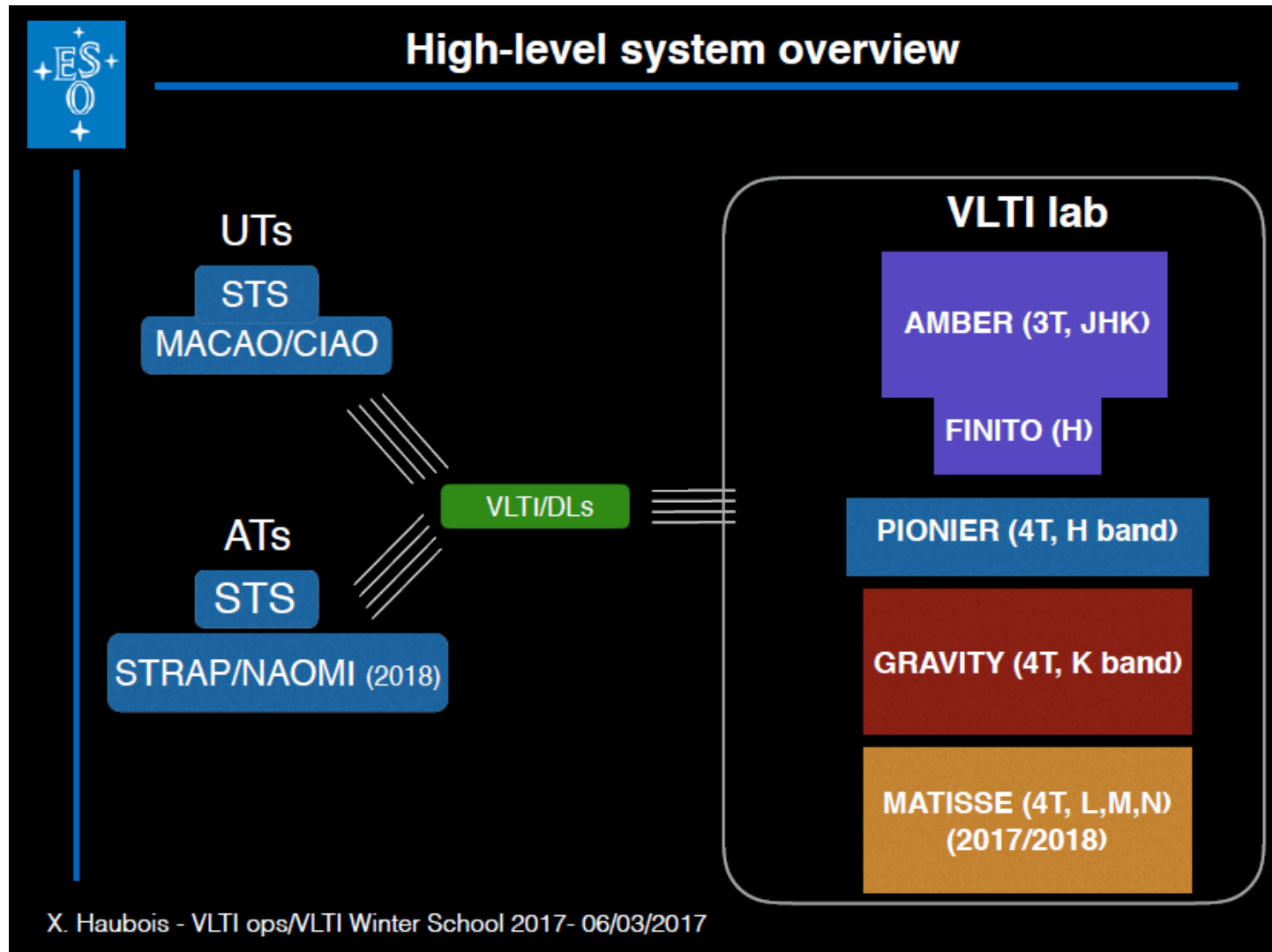


[u,v], dec=-15.0 for 4.0h





# Instruments





# Instrument specifications

	AMBER	PIONIER	GRAVITY	MATISSE
# of combined telescopes (ATs or UTs)	3	4	4	4
Spectral range and resolution	H-K (35,1500,12000)	H (none,30)	K (22,500,4000)	L,M,N (30-5000)
Fringe tracker	FINITO		Dedicated internal FT (on/off-axis)	GRA4MAT

+ astrometry offered in the near-future

# Instrument limits (GRAVITY)

<http://www.eso.org/sci/facilities/paranal/instruments/gravity/inst.html>

Table 1. K-band limiting correlated magnitudes on ATs

	<0.6"	0.6" < seeing <1"	>1"
single field	7.0 <sup>m</sup>	6.0 <sup>m</sup>	5.0 <sup>m</sup>
FT dual field	7.5 <sup>m</sup>	6.5 <sup>m</sup>	5.5 <sup>m</sup>
SC dual field	7.5 <sup>m</sup> +3 <sup>m</sup>	6.5 <sup>m</sup> +3 <sup>m</sup>	5.5 <sup>m</sup> +3 <sup>m</sup>

Table 2. K-band limiting correlated magnitudes on UTs

	<0.6"	0.6" < seeing <1"	>1"
single field	10 <sup>m</sup>	9.0 <sup>m</sup>	8.0 <sup>m</sup>
FT dual field	10.5 <sup>m</sup>	9.5 <sup>m</sup>	8.5 <sup>m</sup>
SC dual field	10.5 <sup>m</sup> +3 <sup>m</sup>	9.5 <sup>m</sup> +3 <sup>m</sup>	8.5 <sup>m</sup> +3 <sup>m</sup>



# Guaranteed time observations

## Guaranteed Time Observations for Period 100

Please find below the protected target lists of the GTO teams for P100:

### ARTEMIS

- [List of protected observations for the ARTEMIS consortium](#)

### GRAVITY

- [List of protected observations for the GRAVITY consortium](#)
- [List of protected observations for VISA-MPG](#)

### KMOS

- [List of protected observations by the KMOS consortium](#)

### MUSE

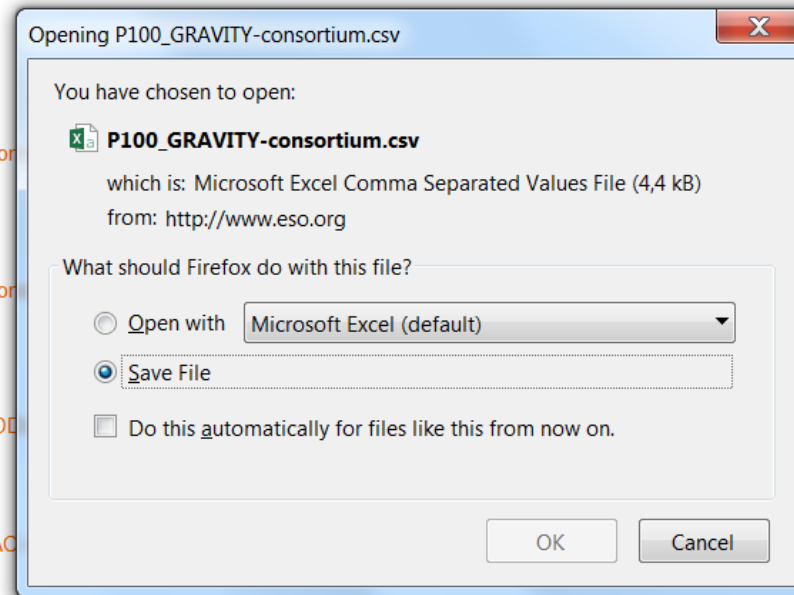
- [List of protected observations for the MUSE consortium](#)

### NACO

- [List of protected observations for the PRIMA-DDE consortium](#)

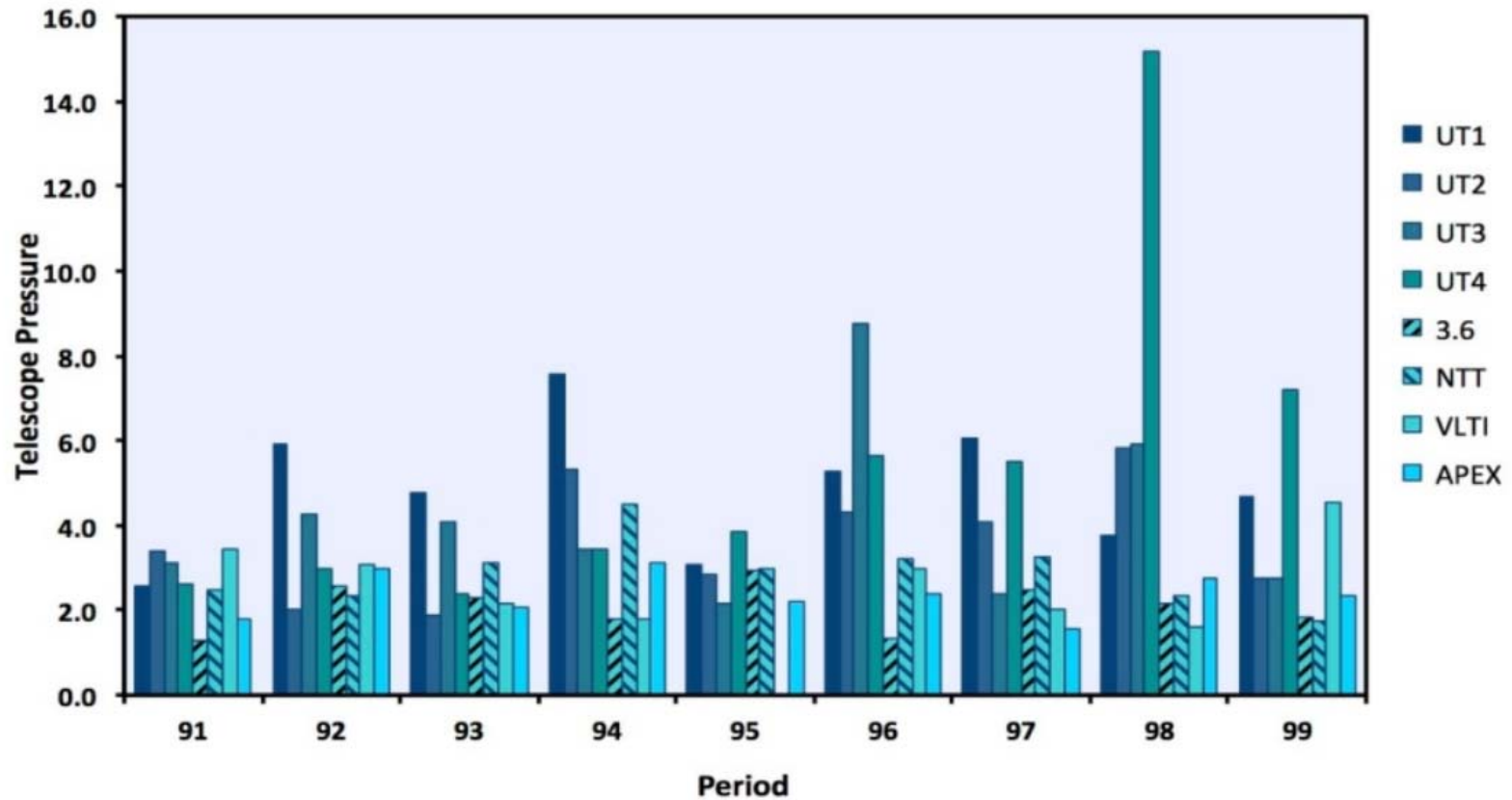
### OMEGACAM

- [List of protected observations for the INAF-OAG consortium](#)





# Telescope pressure





# What the OPC is looking for

- Context and implications of the observations
  - What will we learn for a class of sources in general?
  - What questions will be answered, problems solved?
- Single targets need to be “high-profile”
  - Are there going to be more general conclusions?
- OPC appointed by ESO, but members must not be ESO staff

## OPC comment for the programme:

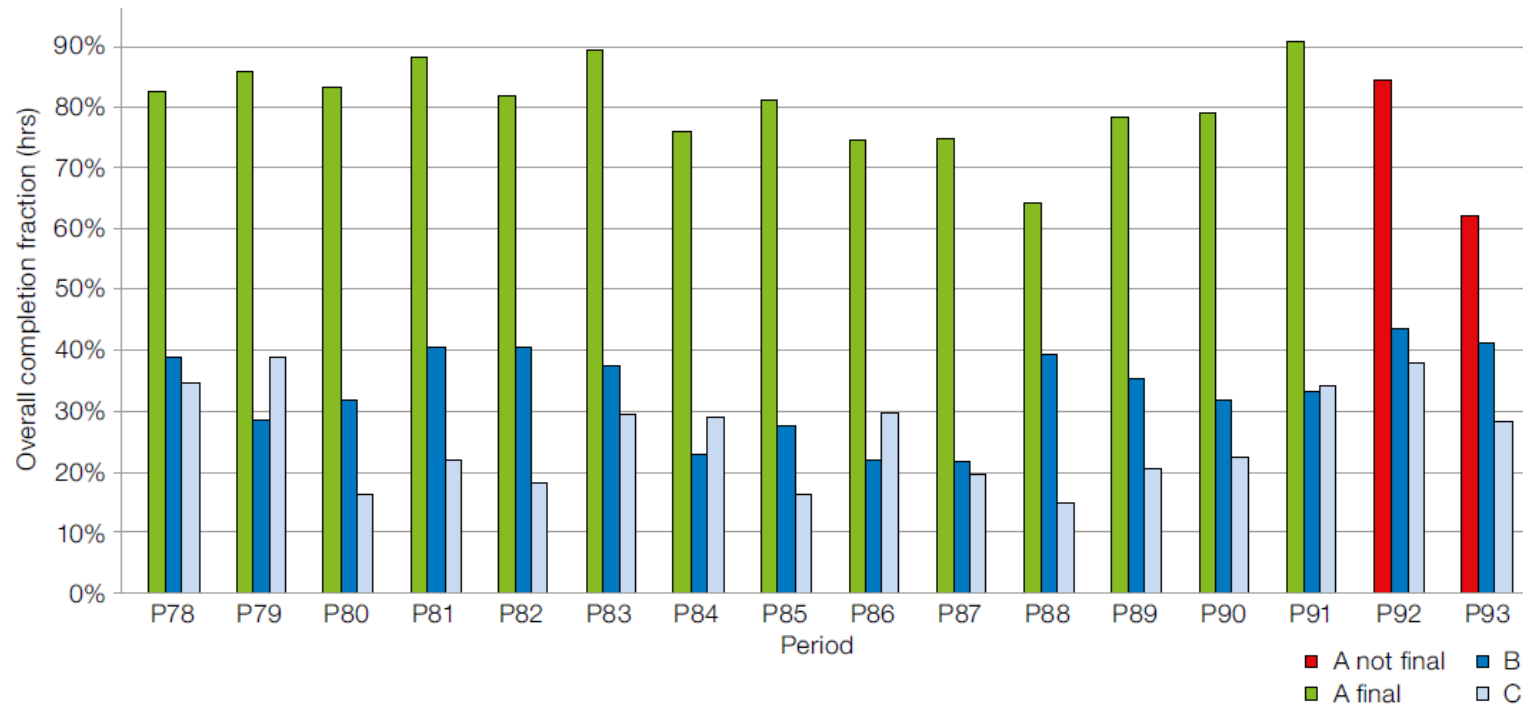
The panel agrees that VLT/GRAVITY observations of the innermost regions of the sgB[e] candidate in the Westerlund 1 cluster might well reveal important information about the influence of close binary interaction in this system. The proposal strengths lie in the characterization (geometry and kinematics) of the innermost part of the system with the goal to find a connection between the circumbinary torus and the outflow detected with ALMA. This will provide boundary conditions for the theory. However, the panel finds that the proposal does not present much information on the potential implications of results. Besides, the panel had the impression that the theoretical predictions on such connections still need to be constructed. A minor weakness perceived by the panel though still important, is the claim to reconstruct an image with only three hours of VLTI observing time. The panel deems image reconstruction with such a short exposure and hence sparsely filled UV plan unlikely.



# OPC and scheduling

- OPC ranks proposals: A (highest), B, or C
  - A: high-completion rate, carried-over if necessary
  - B: lower completion rate, impact on observational design
  - C: Filler, to be observable even in poor conditions
- Scheduling according to required constraints
  - Very good seeing: fewer of the highest ranked proposals
  - Same for photometric or clear conditions
- Visitor mode: only one chance!
  - Travel to Paranal 😊
- Service mode: recommended for VLTI

# Service mode completion rates



F. Primas 2014, The Messenger 158





# Observation preparation

- Congratulations: you got time!
- Phase 2:
  - Prepare and submit observing blocks (P2PP tool)
  - OBs are verified before submission
  - Prepare short summary of observing instructions
  - Iterate, if necessary, with support astronomer (USD)
  - Pay attention to Phase 2 deadline
- Ask ESO user support in case of questions:
  - Send mail to [usd-help@eso.org](mailto:usd-help@eso.org)



# Observation support

- **Subscribe to night reports**
  - Receive notification when observations took place
- **Reply to issues reported by Paranal Operations:**
  - You would be contacted by your support astronomer (USD)
  - Targets resolved?
  - Calibrators bad?
  - Observations carried out on intermediate configuration

# Operations

- Queue scheduling based on rank index
  - Select all OBs observable given the conditions
  - Consider OPC rank and grade
  - Consider time constraints:
    - Setting targets
    - Time intervals and monitoring
    - LST intervals
  
- Planned improvements
  - Cycle through each configuration once per month
    - Enable monitoring (important for young stellar objects)
  - Make use of intermediate configurations
  - Automatic optimization of uv-coverage for imaging
  - Selection of range of baseline lengths, not stations?