

Service vs Visitor mode observing at ESO.

Should I stay or should I go?

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Observing Programmes Office & User Support Department



ESO – LSP Observatory

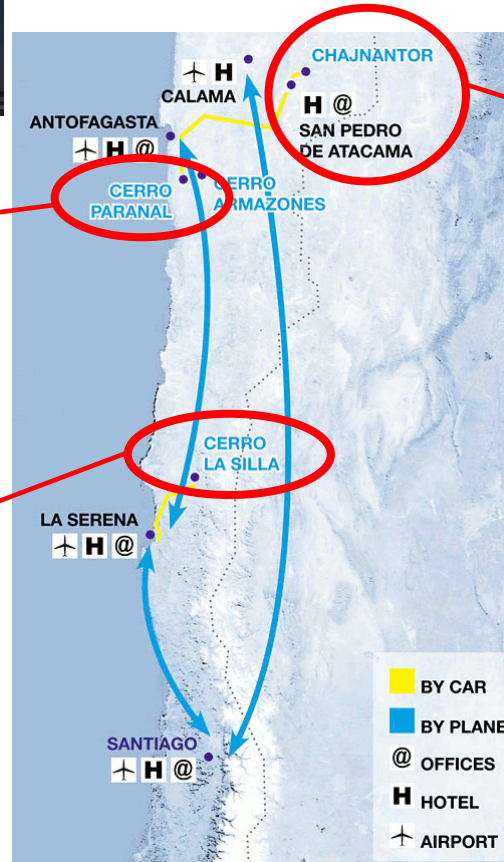


Paranal

130km South of Antofagasta
Closest airport: Antofagasta
Altitude: 2600m
Operational since: 1999

La Silla

600km North of Santiago
Closest airport: La Serena
Altitude: 2400m
Operational since: 1969



APEX

230km East of ANF
Closest airport: ANF
Altitude: 2600/5100m
Operational since: 2005



LSPO Scientific Profile

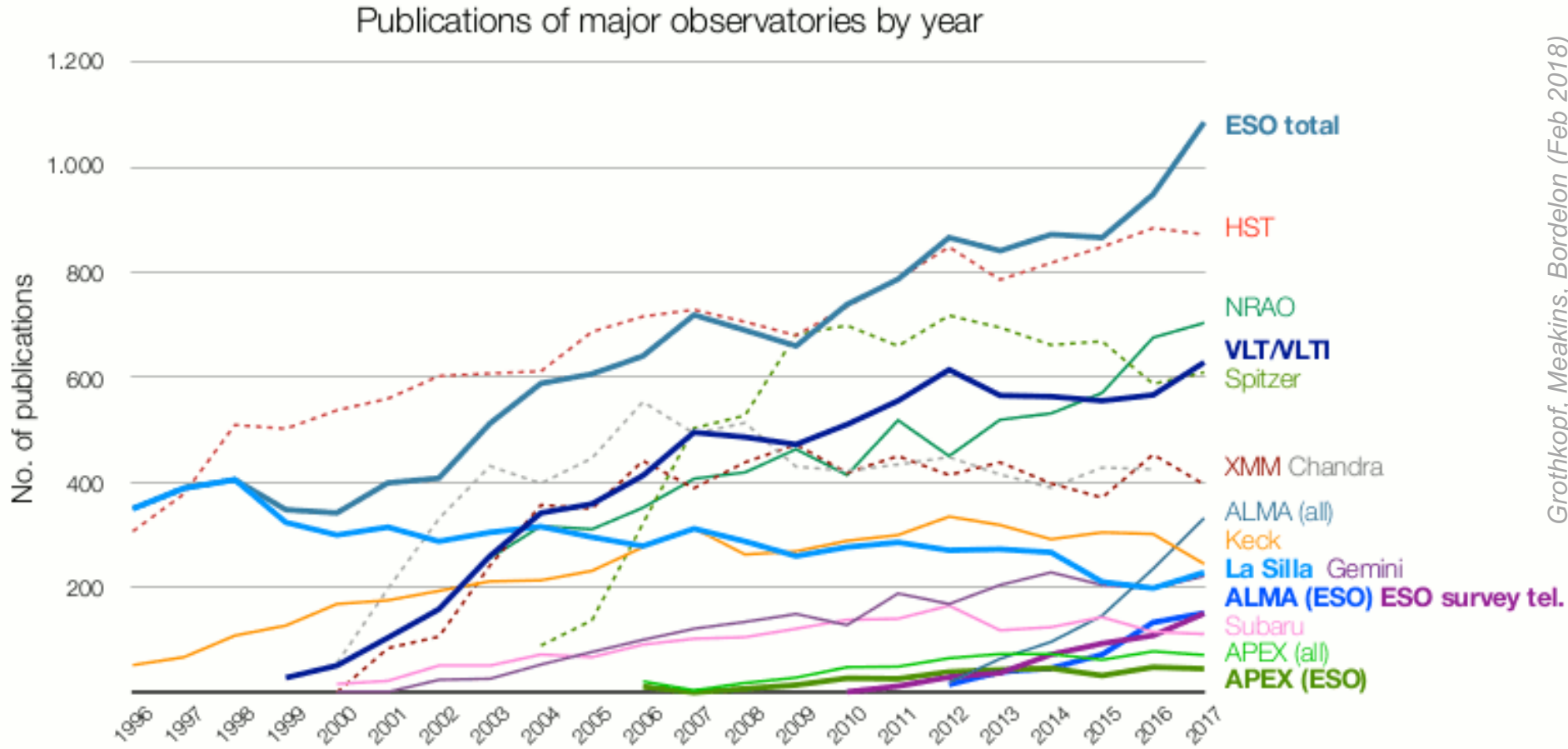


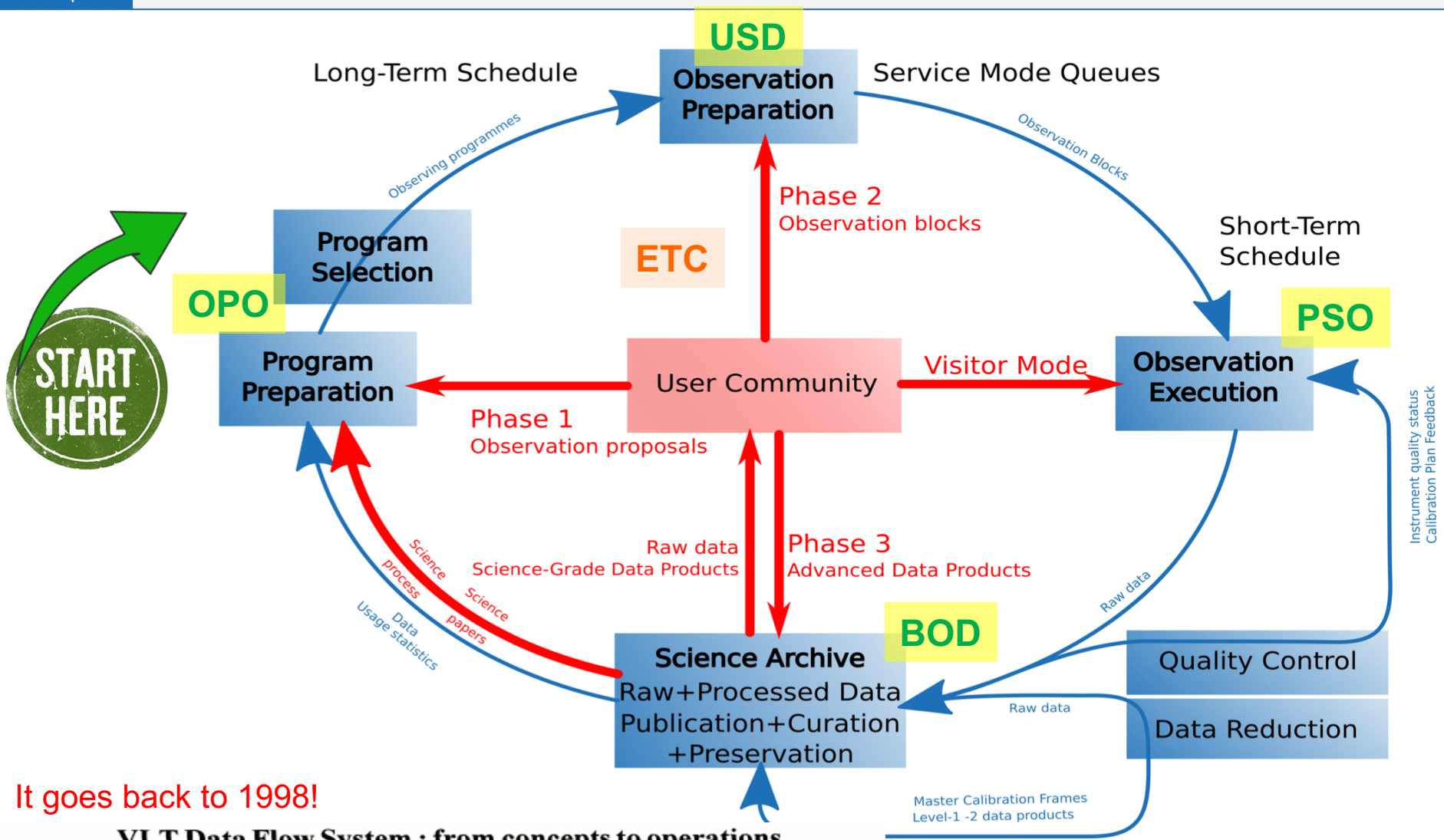
Fig. 3: Refereed publications by ESO and other observatories (as of Feb. 2018)

Thick lines: ESO facilities. **Thin lines:** other ground-based facilities. **Dashed lines:** space-based facilities.

Please note that selection criteria for inclusion or exclusion of papers vary among observatories



LSPO Operational Model



It goes back to 1998!

VLT Data Flow System : from concepts to operations



How astronomers interact with ESO

The very first interface is the **User Portal**

ESO Home User Portal Contact Site Map Search: Go!

ESO User Portal
European Southern Observatory

ESO User Portal
ESO — Reaching New Heights in Astronomy

Username: fprimas (case-sensitive)
Password: (case-sensitive)

LOGIN **CLEAR**

- I forgot my ESO User Portal username.
- I forgot my ESO User Portal password.
- I would like to create a new account **New**

For security reasons, please Log Out and Exit your web browser when you have finished accessing services that require authentication!



ESO User Portal

ESO Home Science Contact

Science Users Information > ESO User Portal > Home Page

F. Primas | Logout

- ESO User Portal**
- Privileged Actions
- Request a Special Run
- Account Configuration
- Home Page**
- Change Username
- Change Password
- Manage Profile
- Science Users**
- Science User Information
- ALMA Science Portal

ESO User Portal Services



Phase 1

- Download the proposal form
- Submit 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
- Check your Phase 3 submission status
- Delegate Phase 3 tasks



Archive Services

- Query the Archive for
 - La Silla Paranal raw data
 - La Silla Paranal reduced data
 - APEX reduced data
 - Phase 3 Catalogs
- Delegate proprietary data access rights
- Check your Archive requests
- Access other Archive services
- Access ALMA data



Help

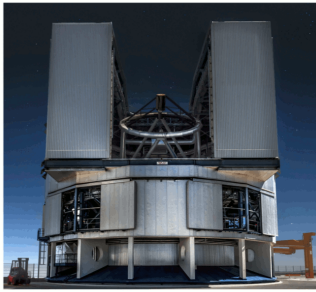
- Ask for help
- Find User Portal Information and FAQ
- Check the data reduction FAQ

Keep your UP account up-to-date!



You want data, I presume ...

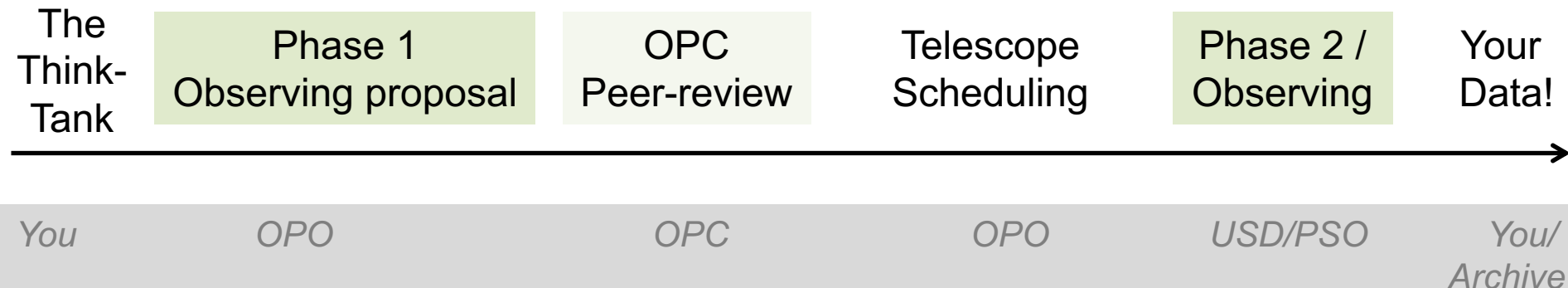
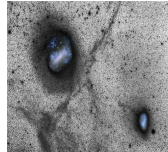
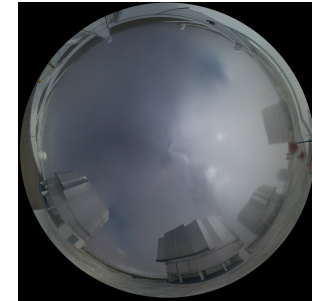
New data?



ESO Call for Proposals – P102
 Proposal Deadline: 28 March 2018, 12:00 noon CEST



		October - 16																		
		Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
UT1	Period Change																			
	Service																			
UT2	Period Change																			
	Service																			
UT3	Period Change																			
	Service																			



From ideas to proposals

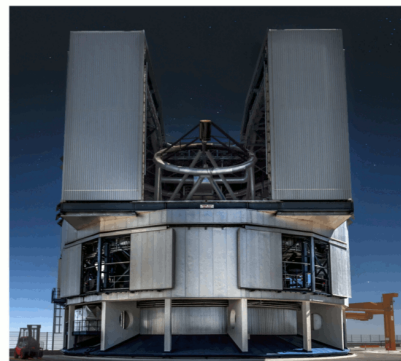
ESO's observing seasons (*aka, Periods*)

Apr 1 – Sep 30

→ Next Period will be P101 (as of Apr 1)

Oct 1 – Mar 31

→ Next deadline: Mar 28 (CfP102)



ESO Call for Proposals – P102
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Science Users Information
Observing Facilities
Future Facilities and Development
Observing with ESO Telescopes
Policies and Procedures
Telescope Time Allocation
Phase 1 Proposals
Applying for Observing Time
Call for Proposals
Proposal Package
OPC Categories
Phase 2 Preparation
Phase 3
Public Surveys
Observing Tools and Services
Visiting Astronomers

2 Calls for Proposals issued per year

- What is being offered and how
- Types of programmes, science policies
- Latest news
- Upcoming changes

Fundamental read!
 Binding!

<http://www.eso.org/sci/observing/phase1.html>



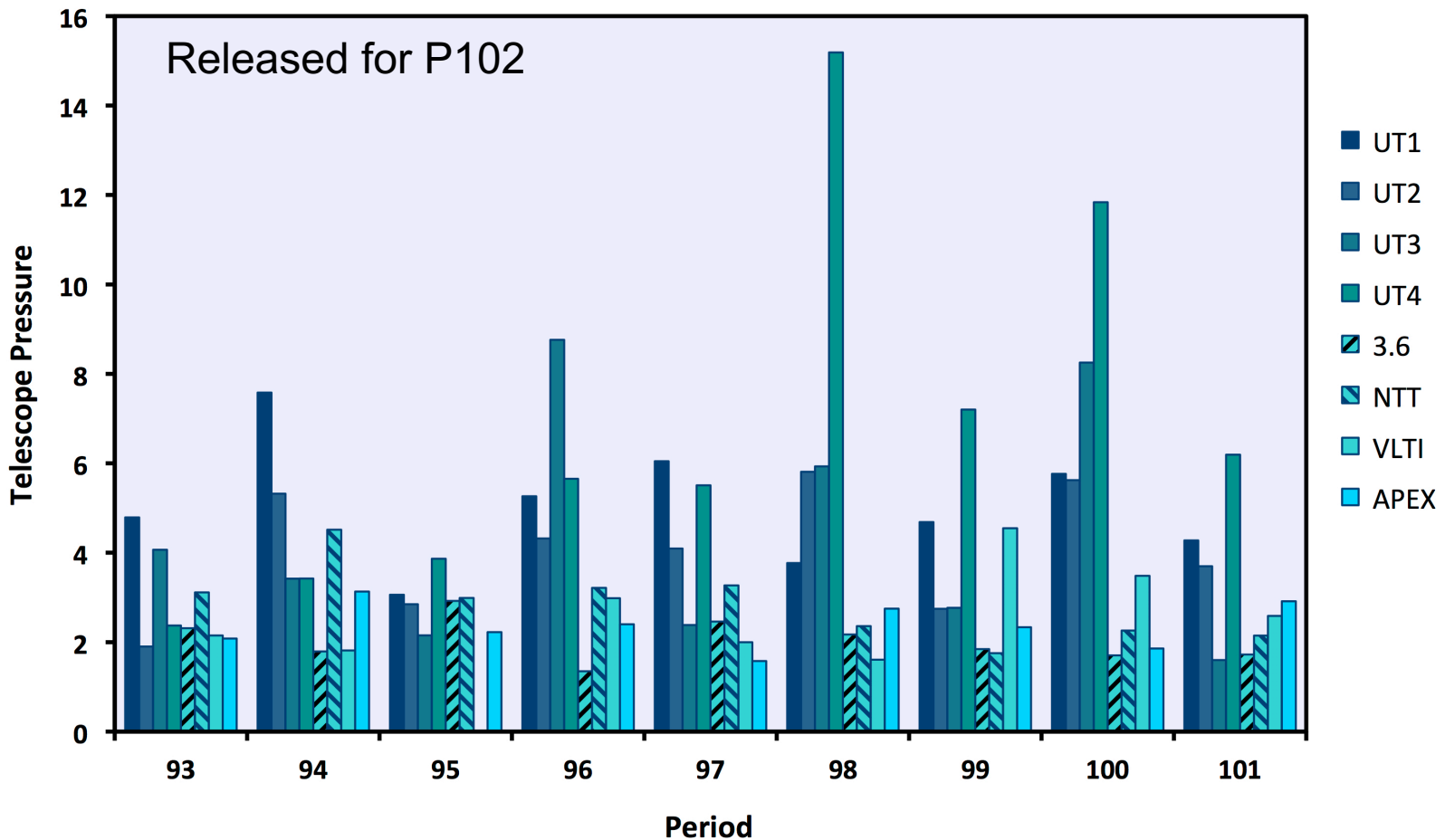
Scientific aspects

Programme Types	<ul style="list-style-type: none"><u>Normal</u>Monitoring / Calibration<u>Large</u> (> 100h, over a max. of 4P)<u>Target of Opportunity</u> (+ Rapid Response Mode)Guaranteed Time Observations (GTO)<u>Director's Discretionary Time</u> (up to 5%) → <i>channel always open</i>Host State Proposal (Chile)	<ul style="list-style-type: none">+ VLT-XMM+ non Member State
Observing Modes	<ul style="list-style-type: none">Visitor Mode (Classical observing) + <i>Designated VM (DVM)</i>Service Mode (Queue observing)	
Science Categories	<ul style="list-style-type: none">Cosmology and the Intergalactic MediumGalaxiesISM, Star formation and Planetary systemsStellar evolution	
Basic Concepts	<ul style="list-style-type: none">Observing "programme vs. run"Observation Block	

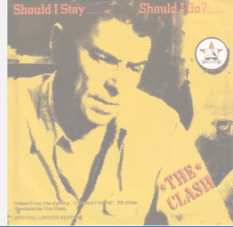
Figures & Timelines

Time requests [1 month]

~900 proposals + ~60 DDTs (per Period)
 ~750 distinct PIs, ~3000 co-Is from 50 countries
 Pressure: >3 (on average); >5 (for some instruments)



Should I stay or should I go?



Visitor Mode / Classical observing

- Hands-on experience / educational
- Real-time decisions
- Challenging observations
- May be more efficient
- Opportunity to network

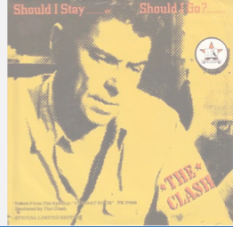


Service Mode / Queue observing

- Demanding conditions in terms of transparency and seeing
- Best matching conditions for science programme
- Special obs. strategies (e.g., monitoring, variability, light curves, etc.)
- Different educational content
- No need to travel



Should I stay or should I go?



Visitor Mode / Classical observing

- Weather impact (backup programme)
- Must seek approval for backup obs.
- Travel constraints (arrival)
- Time consuming



Service Mode / Queue observing

- Need to prepare all observations in advance
- P2 deadlines to be fulfilled (early Feb and Aug)
- Unless A-class, completion is not guaranteed
- Recommended to monitor how obs. progress

Actually, something else can happen ...



You may travel only virtually to the Observatory from your office/home/sofa ...

Designated VM

ESO reserves the right to allocate telescope time in Designated Visitor Mode (DVM) instead of regular VM for any runs with a duration smaller than one night and a justified need for VM. The final decision will be based on the technical feasibility of the programme ...

DVM

You are allocated a fixed slot (like in VM)
 In contact with Observatory at execution
 No need to travel to Chile

with POEM

Paranal Observatory Eavesdropping Mode

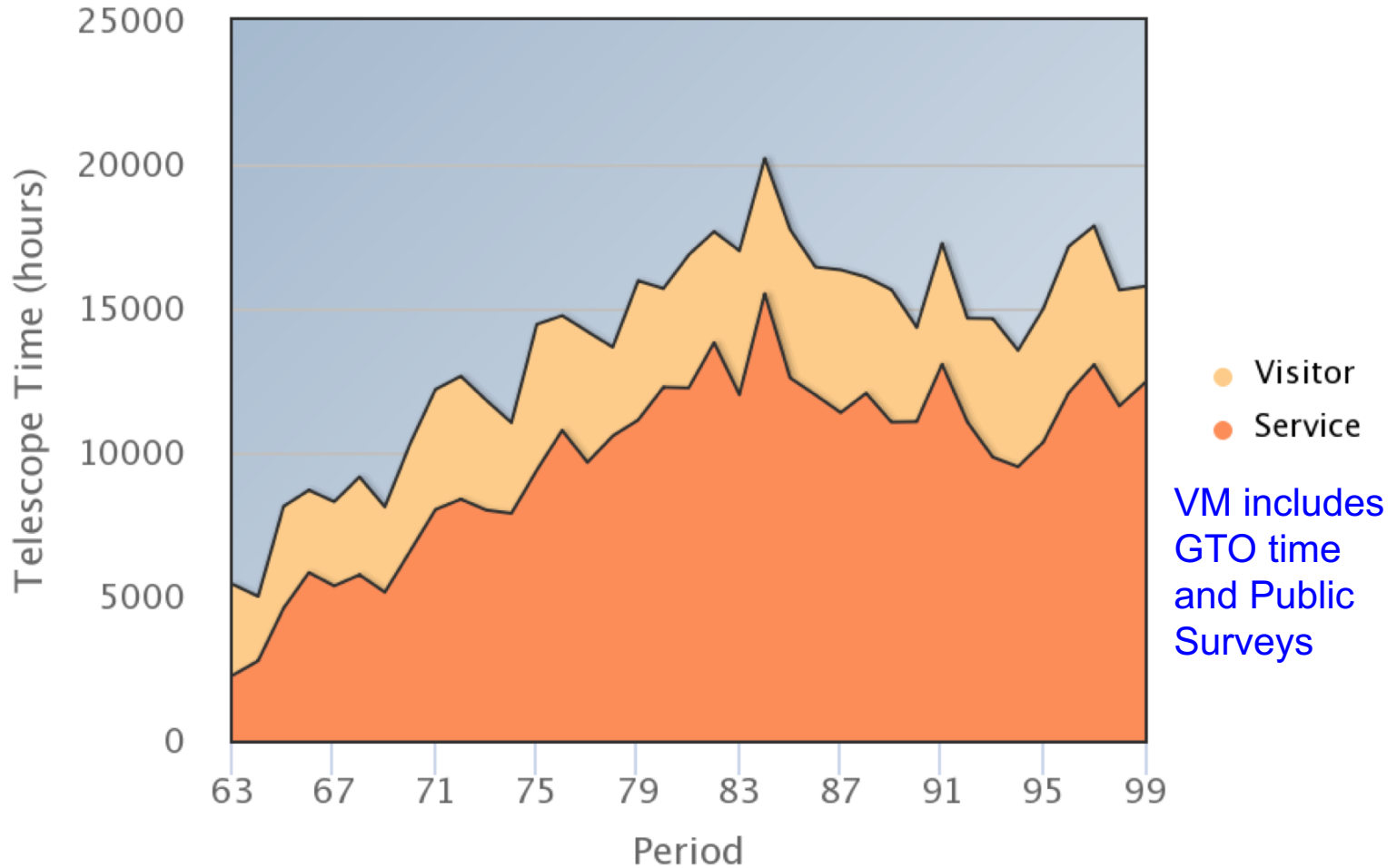
→ Web-based application for viewing panels on approved instruments on Paranal

Service vs Visitor mode observing at ESO – some statistics

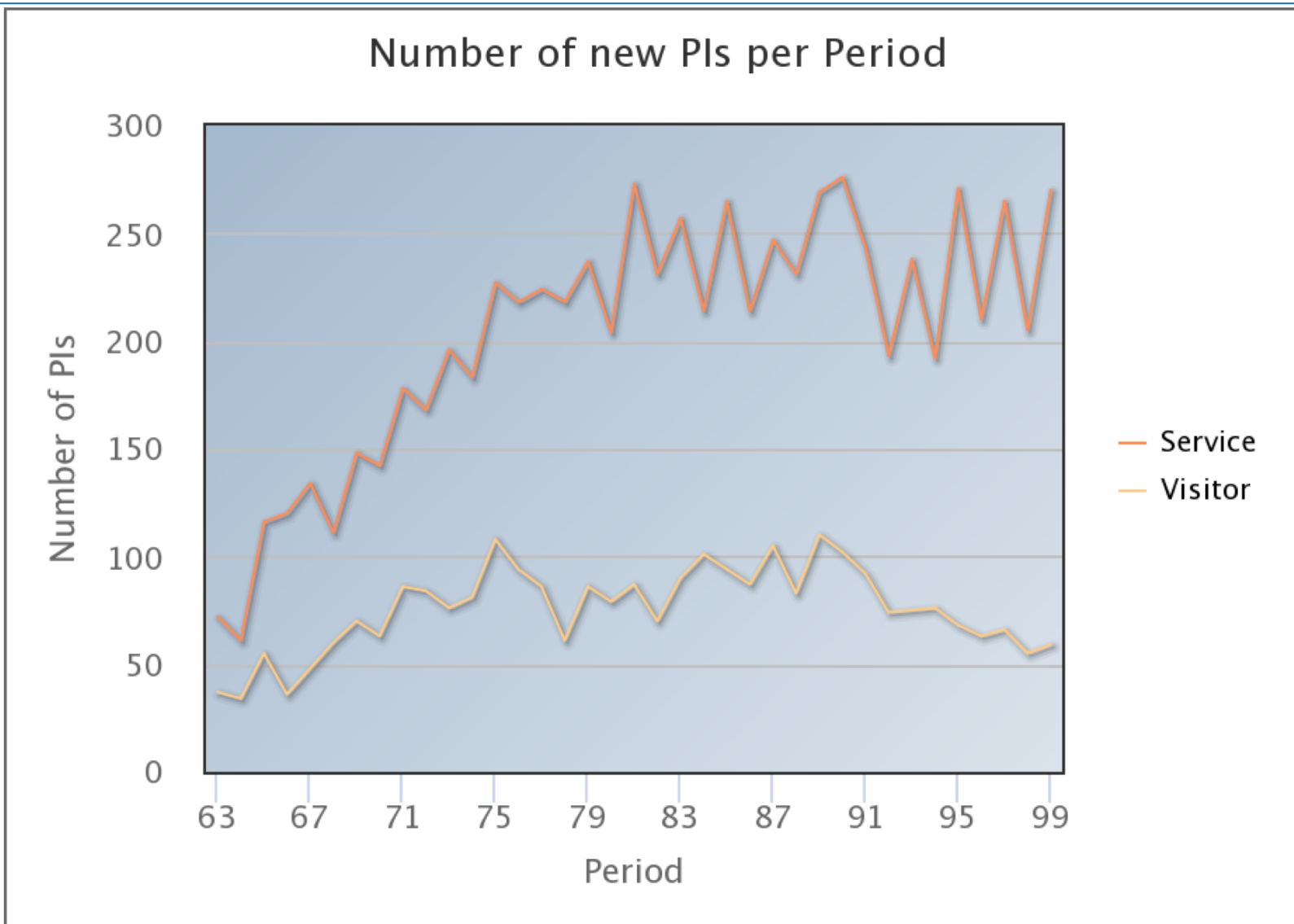
How much time is requested in SM vs VM?

All statistics are for the Paranal Observatory (VLT/MLTI)

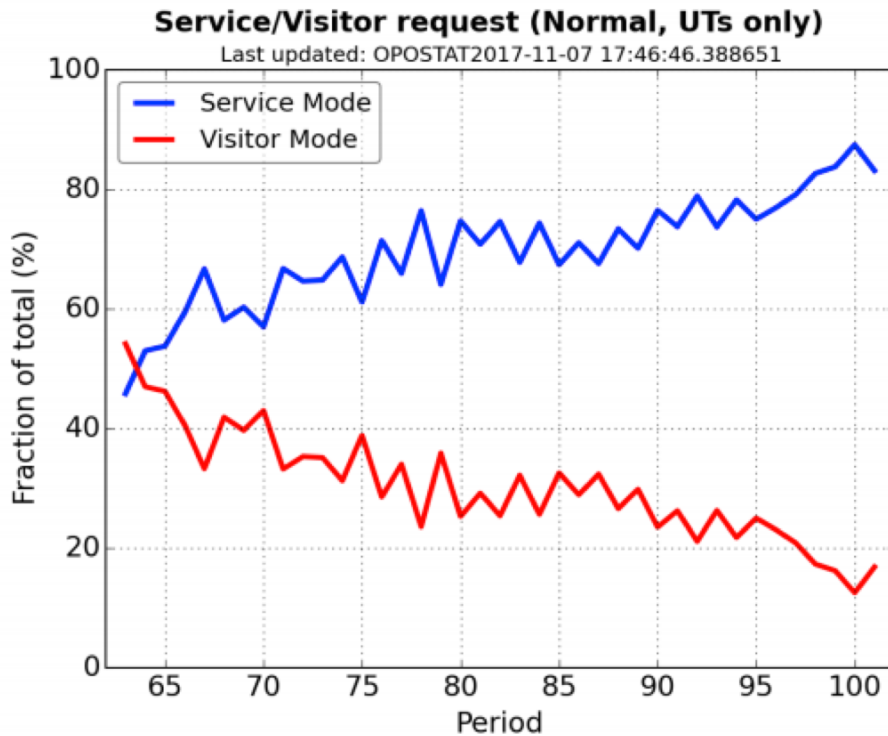
Requested Time: Service vs. Visitor Mode - all telescopes



How many new PIs ask for Service/Visitor Mode?

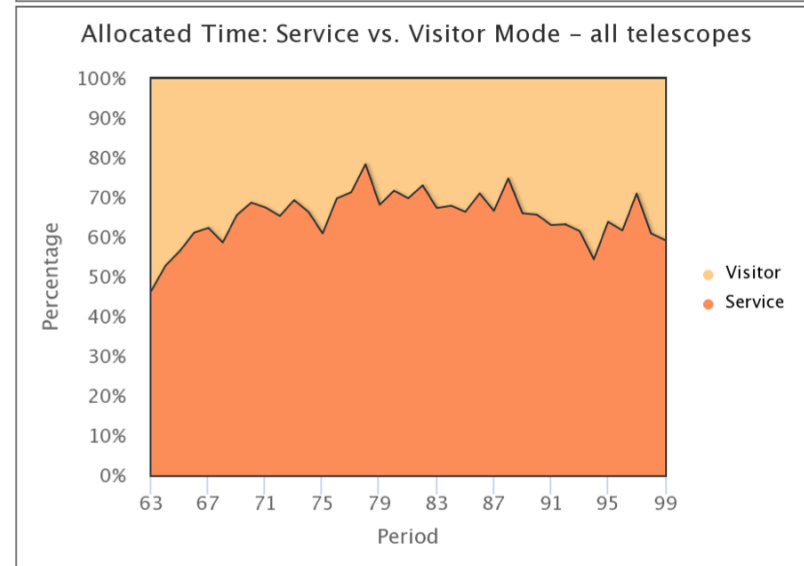
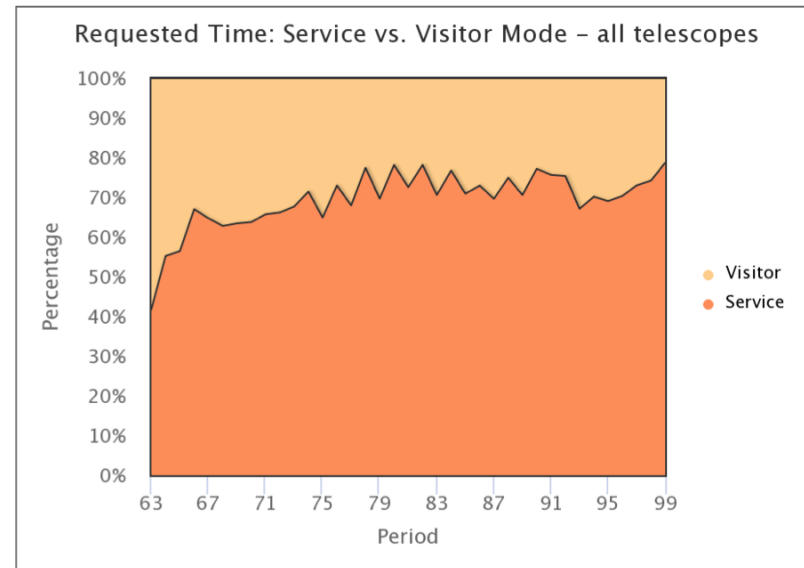


Requested vs. Allocated Time



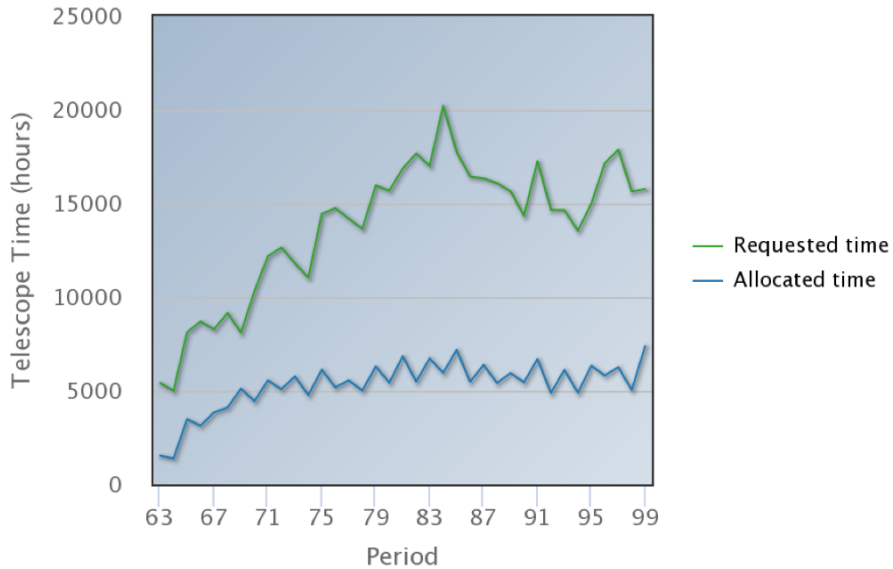
In general, the fraction of allocated VM time reflects the fraction of requested VM time for normal programmes.

In the last periods, the scheduled VM time is largely influenced by GTO and Public Surveys VM time.

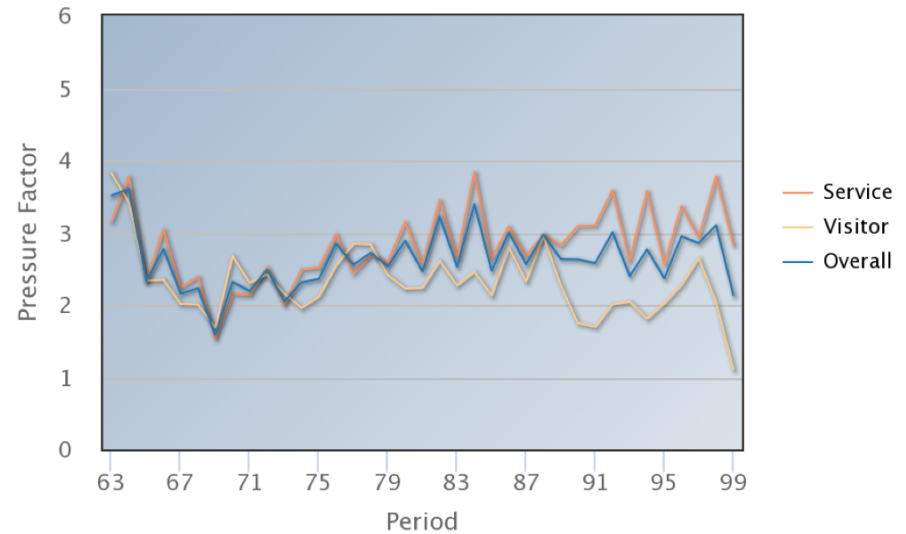


Oversubscription rate/Pressure factor

Requested and Allocated Time (SM+VM) – all telescopes



Ratio of Requested vs. Allocated Time per Period – all telescopes

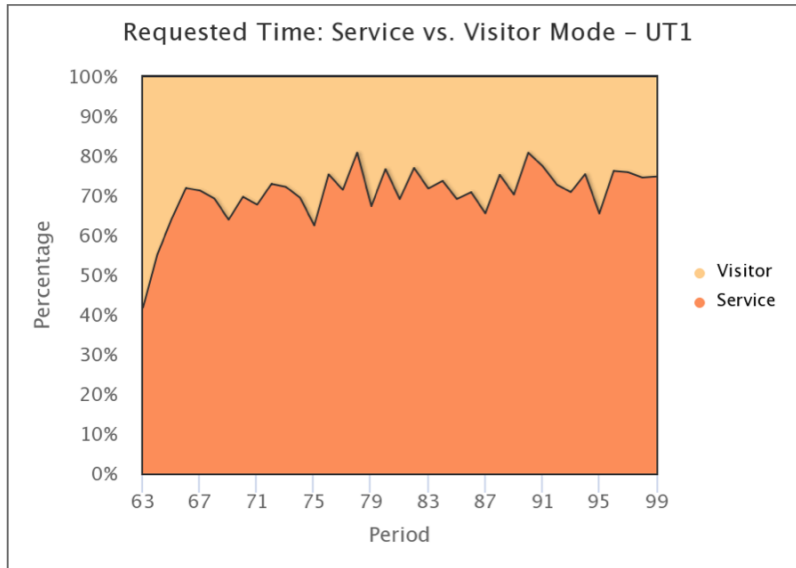


In particular in the last periods the pressure factor of VM was lower than that of SM (mainly due to Public Surveys and GTO that were scheduled in VM).

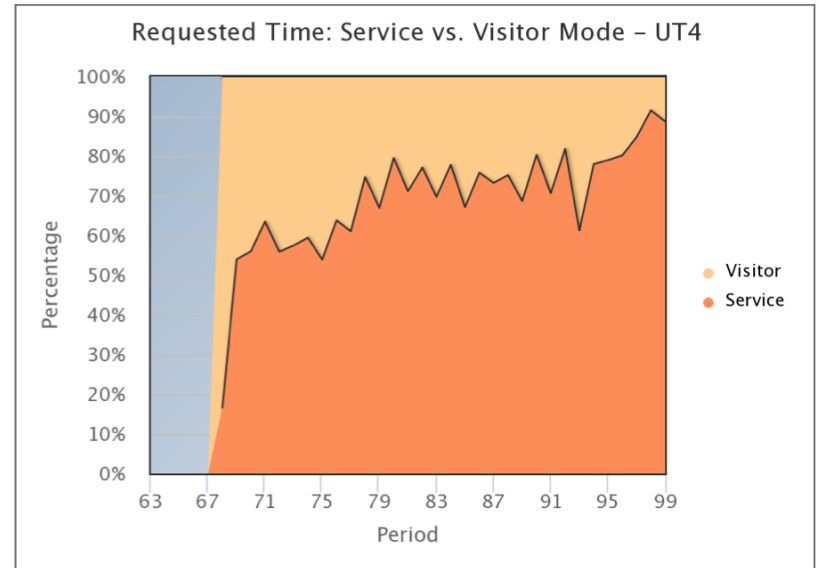


Requested time per telescope

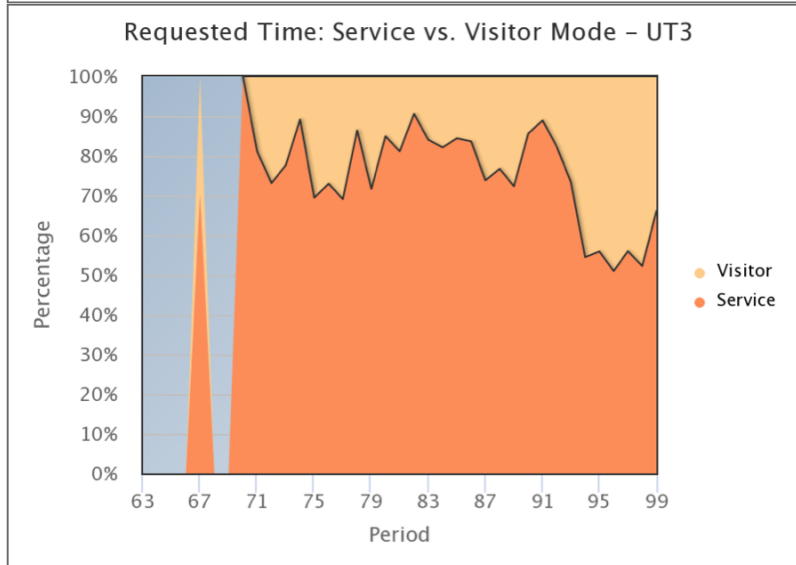
UT1



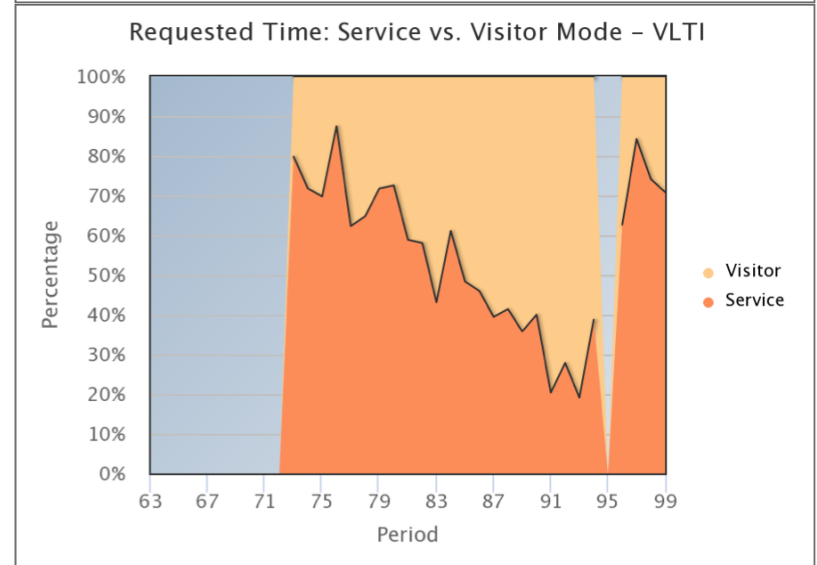
UT4



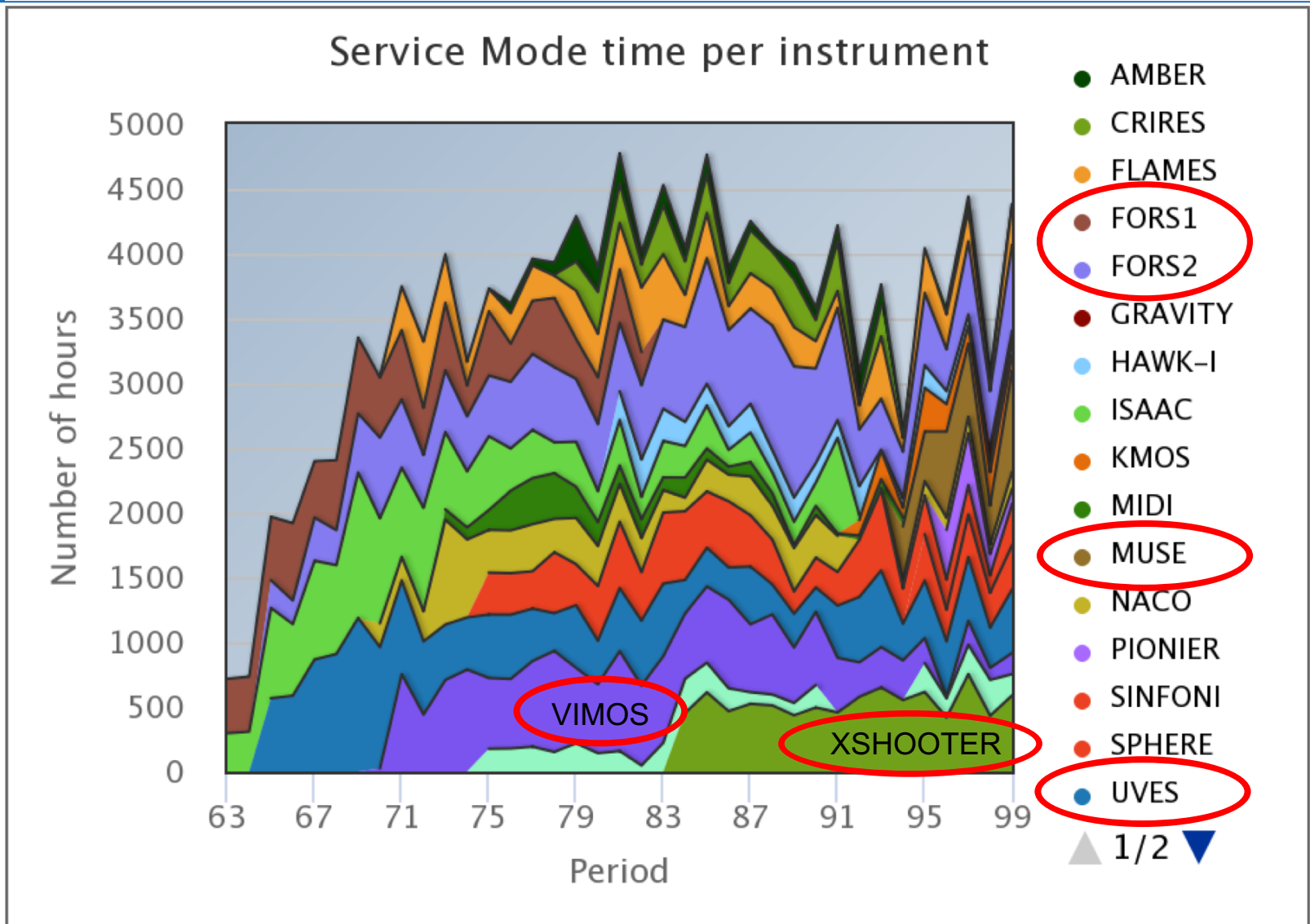
UT3



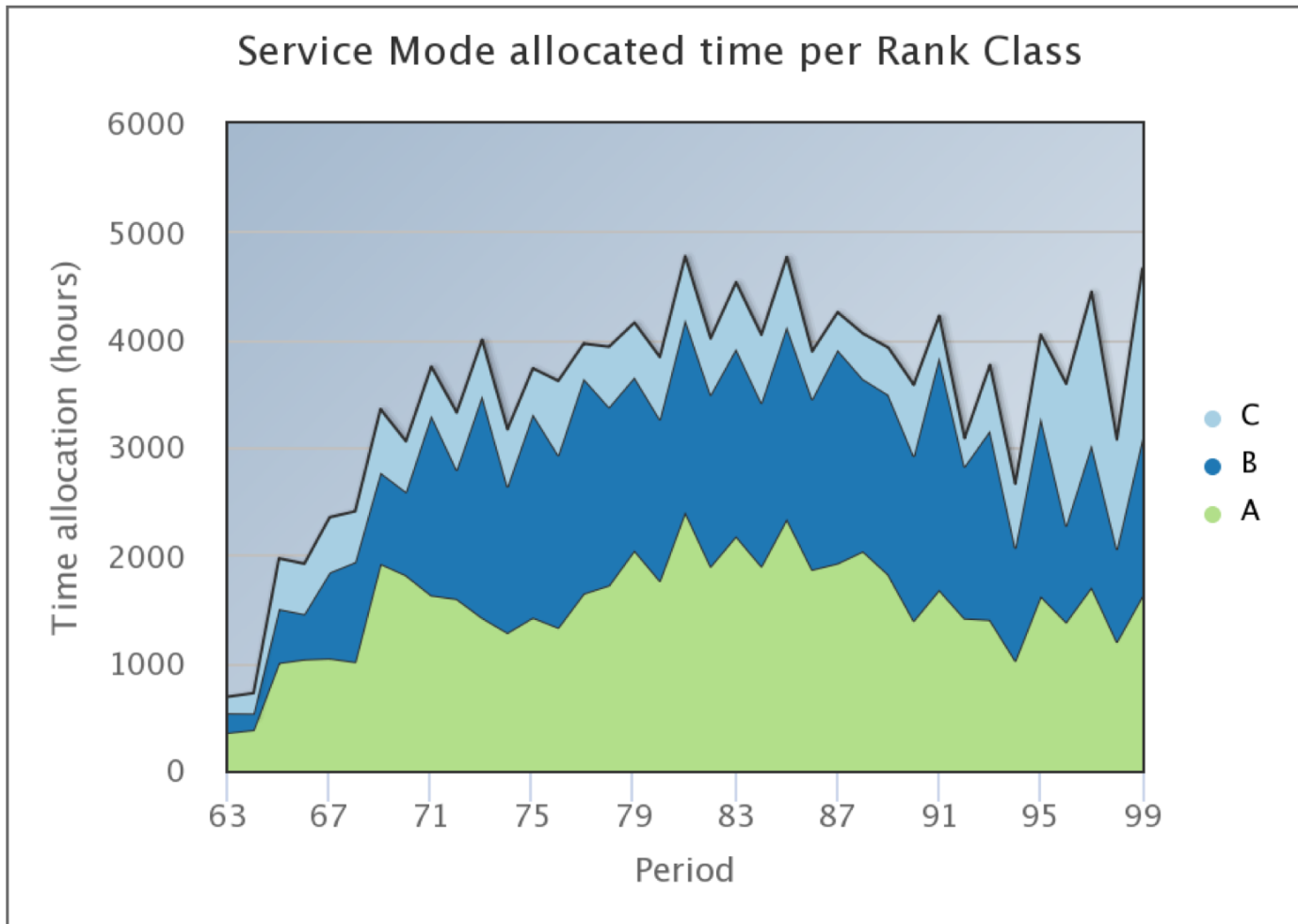
VLT1



Allocated hours in SM per instrument



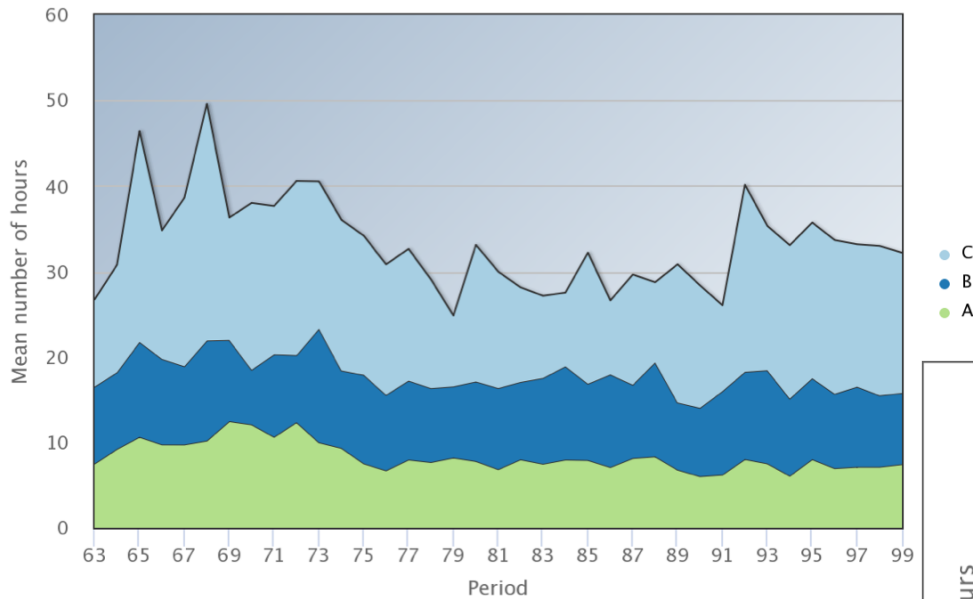
The Rank Classes of Service Mode



Visitor Mode is always 'A rank' but can be weathered out!

How long are typical Service Mode runs?

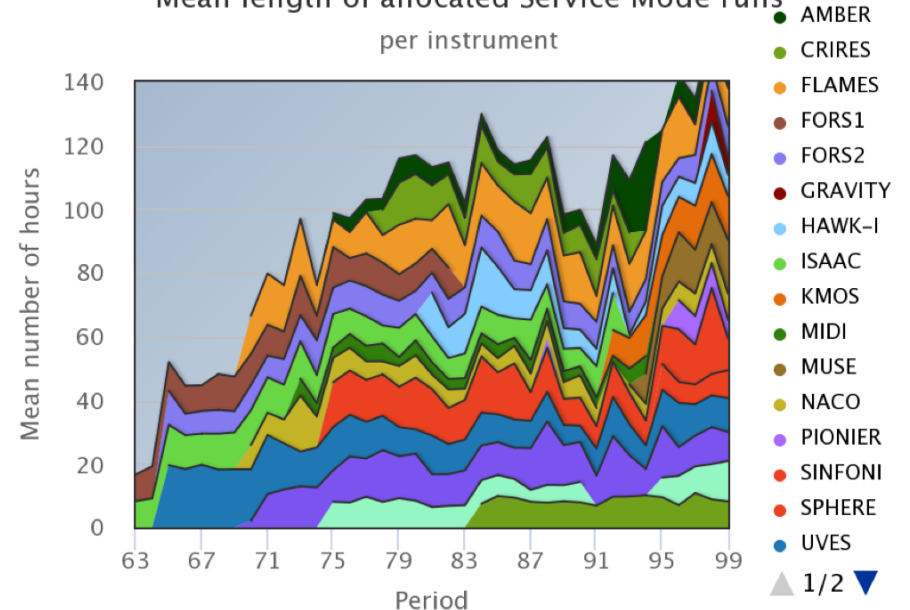
Mean length of allocated Service Mode runs per Rank Class



Mean over all instruments per rank class

Mean per instrument

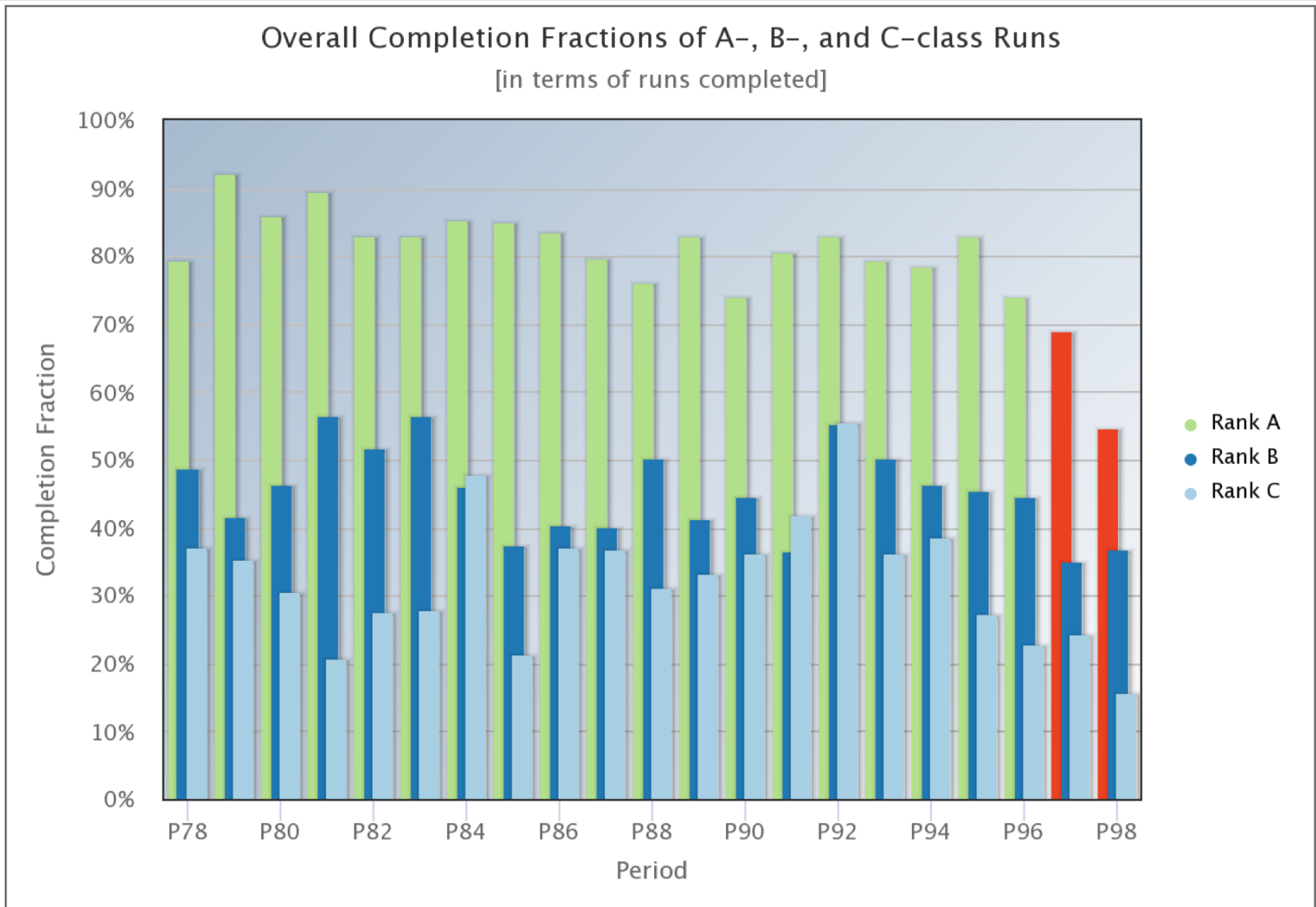
Mean length of allocated Service Mode runs per instrument



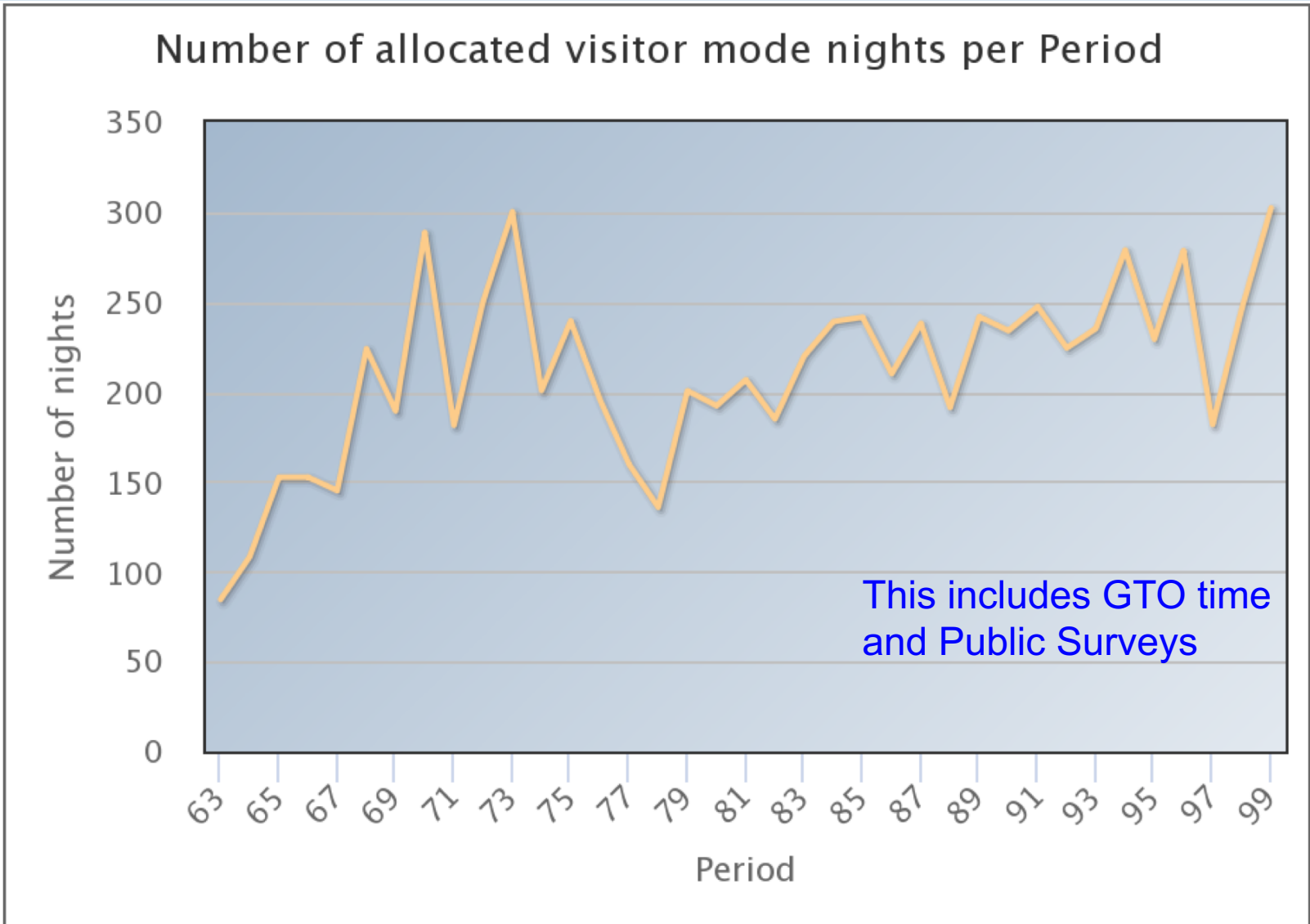
Call for Proposals P102:

“Invitation to submit proposals for larger Normal Programmes: ESO encourages the community to submit proposals for Normal Programmes making use of the full allowed range for the total requested time, i.e., up to 99 hours. Over the last years, the median requested time per proposal for the VLT has steadily decreased and is now ≈ 14 hours.”

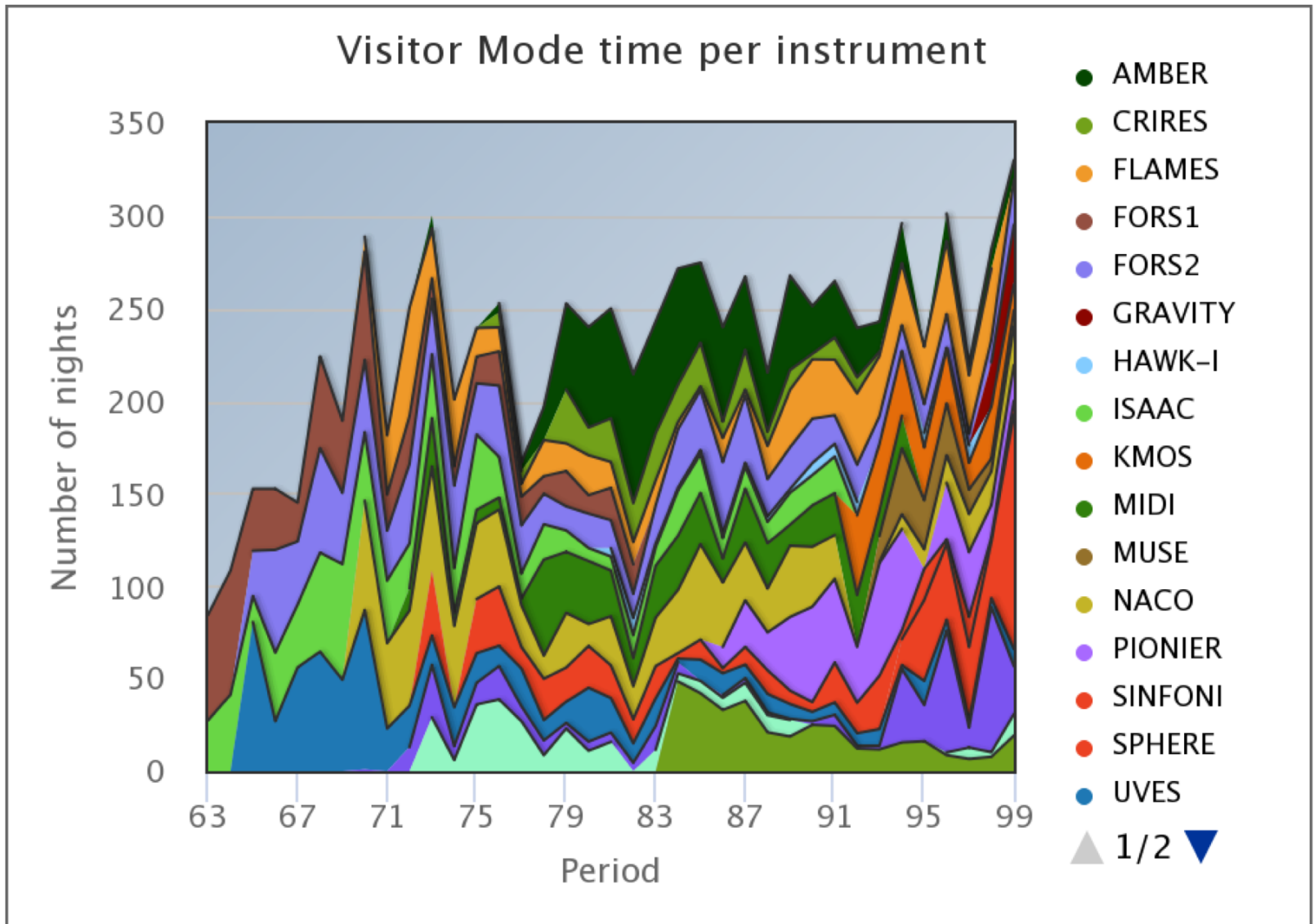
How successful are A-, B- and C-ranked runs?



How many VM nights are scheduled?

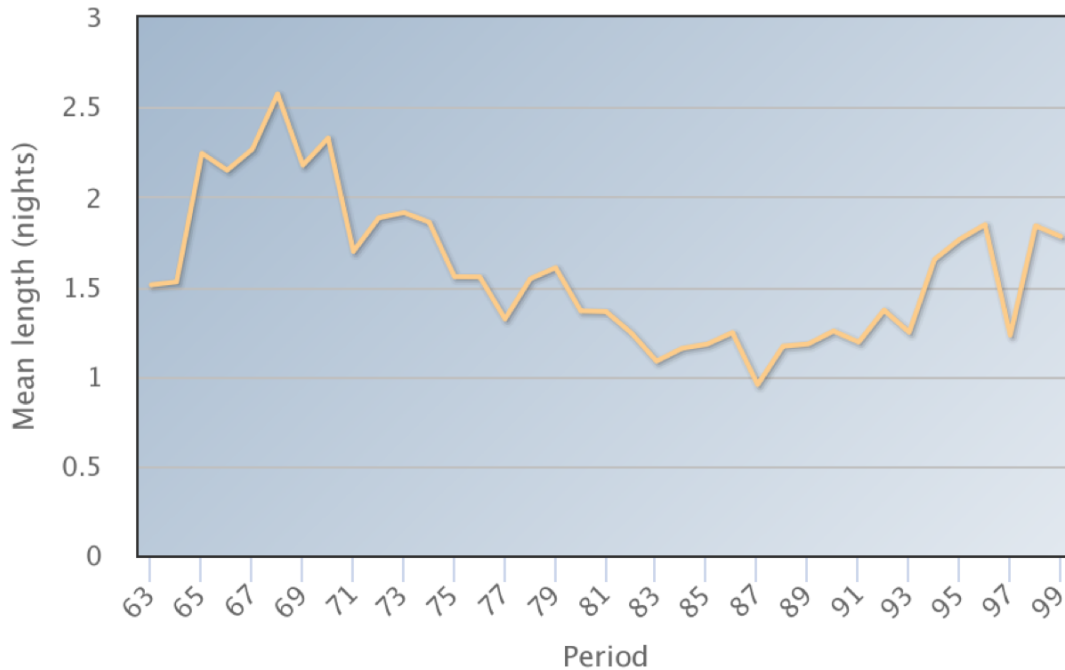


On which instruments in the VM time scheduled?



How long are typical Visitor Mode runs?

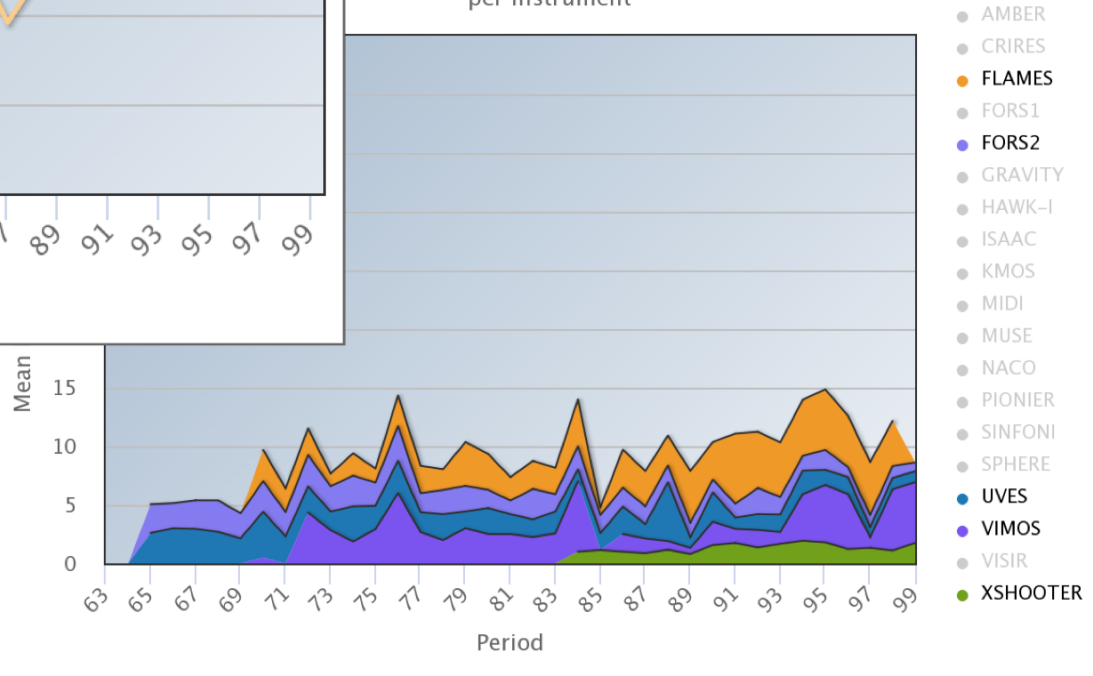
Mean length of allocated Visitor Mode runs



Mean over all instruments

Mean for 5 instruments

length of allocated Visitor Mode runs per instrument

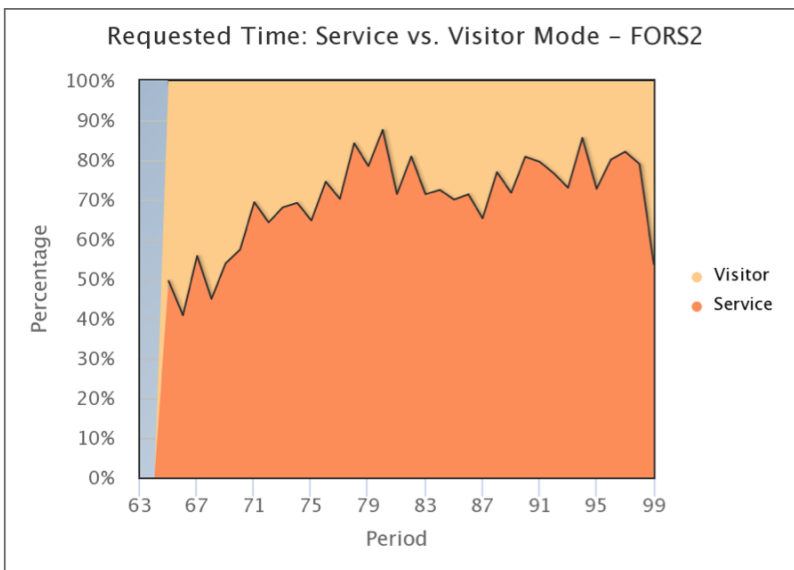


Long VM runs:
 FLAMES (Public Survey)
 VIMOS (Public Survey)

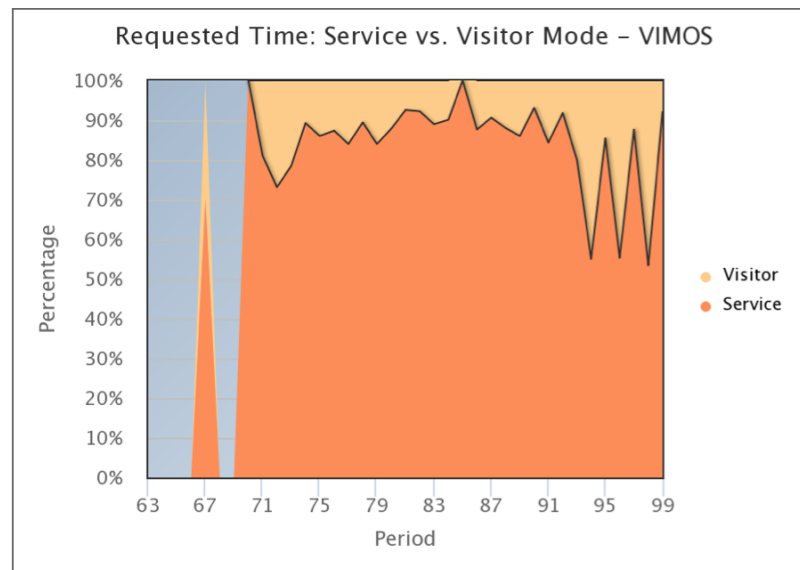


Requested time per instrument

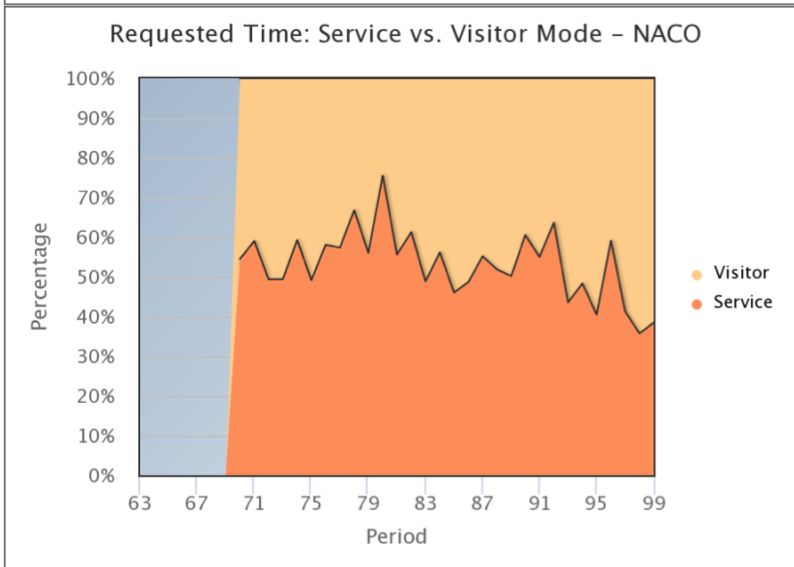
FORS2



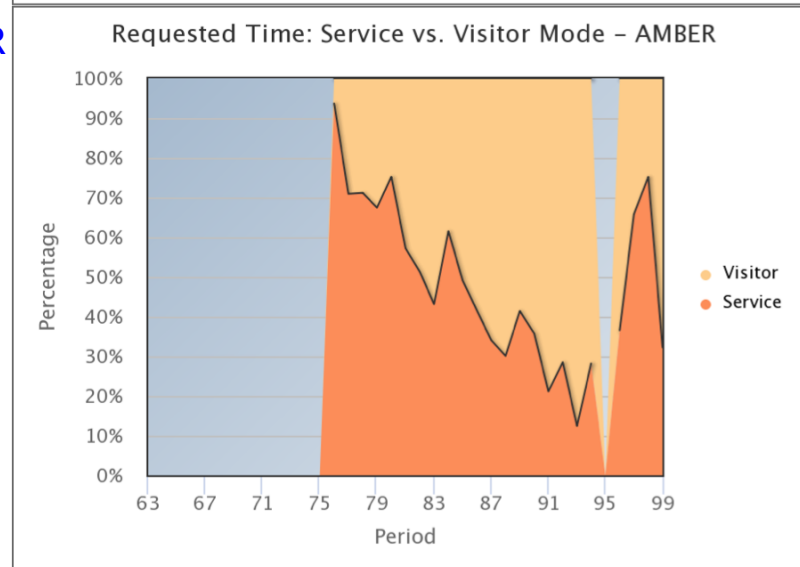
VIMOS



NACO



AMBER



Take-away messages on SM vs VM

- Service vs Visitor Mode: both have (dis)advantages:
 - Thoroughly analyze your science goals
 - Consider your situation (PhD thesis?)
- **Main advantage of Service Mode:** you get the required data quality
- **Main disadvantage of Service Mode:** in B- and C-rank you might not get data at all
- **Main advantage of Visitor Mode:** you decide changes in the observing strategy and accuracy of data quality live on the mountain
- **Main disadvantage of Visitor Mode:** you might suffer from bad weather
- In both cases: apply for as much time as you need for your science goals; long normal programmes are encouraged
- If you don't get what you were expecting, don't panic!
The [Archive](#) has plenty of data already ...

