Evolution of Operations for the Survey Telescope at Paranal

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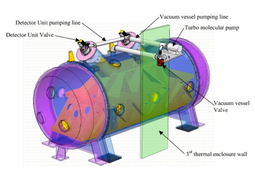
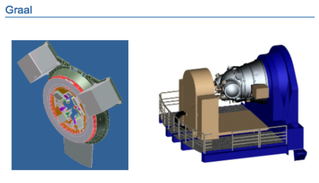
INTRODUCTION

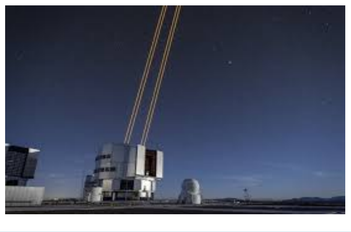
Over the next few years we have seen the arrival to Paranal of the next generation of instruments, such as the system of AOF(Adaptive Optics Facility), ESPRESSO (The Echelle SPectrograph for Rocky Exoplanet and Stable Spectroscopic Observations) and GRAAL (Ground layer adaptive optics). Considering the complexity of the new systems that are and will be arriving to our installations, the Science Operations department (SciOps) will face a lot of challenges not only from the scientific but also from the operational point of view. It is expected that these new systems will require additional support and SciOps will need to have additional operational flexibility.

Therefore release some man power on the TIOs side by optimizing our current operational scheme seems a good way to face these changes and Surveys seems the best option on this regard, once we manage to improve some short comings and lack of stabilities on the systems it should be possible to have one single operator driving both Surveys. In this way we will be optimizing our current operational scheme, provide operational flexibility and also a higher reliability and hopefully a better efficiency.

Examples next generation of instruments and new challenges.





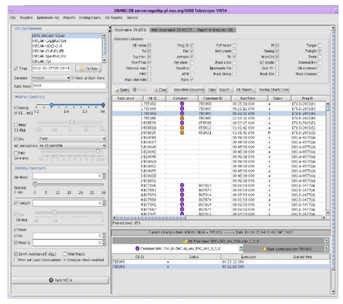


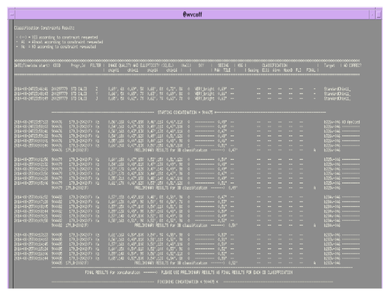
For more information about the Surveys Telescopes please scan the follow QR code

ANALYSIS OF THE OPERATIONAL SYSTEM

This analysis is far to be a complete description of the workflow of Surveys Telescope. Some functions have been omitted, such as the activities of the IOT (instrument operation team) and IS (Instrument scientist), and the description of other function can be incomplete and/or simplified. A detailed analysis of the SciOps workflow is beyond the scope of this project. The aim of this study is to draw a schematic view of the level of complexity of the Survey Telescopes workflow, the interplay between the different actors and the interfaces between them.

Tools that Operators are using during the Operations





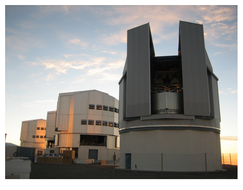


Fig. 1 VLT Survey Telescope (VST)

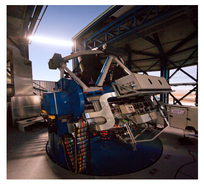


Fig.2 VST Operations

Fig.3 VISTA Telescope

Survey Statistics.

VISTA

			Losses					Filling		
Science Time	Commissioning Time	Technical Time	Technical	Weather	Idle	Other	ToDo	Science	Calibration	NoLossDT
3576h:21m:11s (383.22n)	00h:00m:00s (0n)	119h:45m:04s (12.83n)	5.51 %	20.58 %	2.14 %	0.61 %	1.54 %	2.4 %	0.46 %	0.38 %

Statistics Results 23 May 2015 to 22 Jun 2016

PHOT	CLR	THN	THK	CL	RAIN	SNOW
25.76 %	39.77 %	19.18 %	6.57 %	8.65 %	0.08 %	0 %

VST

			Losses					Filling		
Science Time	Commissioning Time	Technical Time	Technical	Weather	Idle	Other	ToDo	Science	Calibration	NoLossDT
3592h:37m:25s (384.96n)	00h:00m:00s (0n)	40h:57m:39s (4.39n)	5.77 %	20.69 %	8.81 %	0.75 %	2.65 %	2.82 %	0.03 %	0.14 %

RESULTS

We should aim to solve, reduce in number and/or frequency the recurrent problems, create a set of simple priorities or rules and automatize some tasks, all this without ignoring the human factor and before trying to carry on with this operational model.

Recurrent technical problems

Procedure that need to be automatic or re-define

CONCLUSIONS

After studying the operational processes of both telescopes it is that we can say that may seem similar although in general terms, everyone has their peculiarities not make it simple power operate simultaneously without having gone through the process of certification of both systems separately. On the other hand the technical stability and automation systems appear as key elements in making this union of its operators. Currently surveys are more stable than one year ago, mostly due to the work and intervention perform by our engineering colleagues but there is still many things that should and can be improve in order to have more dependable systems. Some of them include:

Thermal Automatization
Operational scripts optimization
Screen console re-distribution
Panels improvement
Startup and shutdown scripts for telescopes side
Possible new location for the Vista Anemometer

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