



La Silla Paranal Users Workshop

Available Instruments and Recent Updates

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La Silla Paranal Observatory



La Silla:
NTT
3.6m



APEX

Paranal:
VLT
VLTI
VISTA
VST



Observatory status

■ <https://www.eso.org/sci/facilities/lpo/news.html>

■ La Silla

- Ramp-up of all systems in October & November
 - NTT/EFOSC2 and SOFI, 3.6m/HARPS
- Visitor Mode observations carried out remotely using LOEM=La Silla Observatory Eavesdropping Mode (dVM)

■ Paranal

- Gradual ramp-up between Sep 2020 – January 2021
- Operational instruments used in Service & dVM
- Today: all systems operational with exception of:
 - HAWK-I – intervention needed
 - VISIR

Paranal: path to restricted operations

- Shift A September 9-23 [30 staff on site, 3 PSO (Paranal Science Operations members)]
 - Restarted regular science operations with UVES @ UT2 and FORS2 @ UT1



- Shift B September 23-October 7 [33 staff on site, 3 PSO]
 - Consolidated UVES & FORS2 operations including MXU, change of Period & prep X-SHOOTER
- Shift C October 7-21 [37 staff on site, 4 PSO]
 - Recommissioning of X-Shooter @ UT3
- Shift D October 21 – November 5 [40 staff on site, 6 PSO]
 - Recommissioning of MUSE-noAO @ UT4 & preparations for MUSE-AOF & SPHERE
- Shift E November 4-18 [57 staff on site, 9 PSO]
 - Restart VST, SPHERE & MUSE-AOF
- ... followed by ESPRESSO, KMOS, FLAMES, VISTA, VLTI instruments on ATs and UTs
- **Reaching by January 2021 restricted operations with 80 staff on site and 15 PSO**

Instruments offered in P108

La Silla	Nasmyth A	Cassegrain	Nasmyth B
3.6m		HARPS (fibre fed)	
NTT	SOFI (until P109!)	ULTRACAM	EFOSC2 (till end P110)

	Nasmyth A	Cassegrain	Nasmyth B
UT1	Visitor Instrument (Sect. 3)	FORS2	KMOS
UT2	FLAMES	VISIR	UVES
UT3	SPHERE	X-SHOOTER	CRIRES
UT4 - AOF	HAWK-I		MUSE
ICCF	ESPRESSO		

In P108 Large Programme proposals accepted for all except: **CRIRES**

Note LP restrictions for ESPRESSO, MATISSE, OMEGACAM, EFOSC2, SOFI, HARPS

1 ESO Proposals Invited

The **European Southern Observatory (ESO)** invites proposals for observations at ESO telescopes during Period 108 (1 October 2021 – 31 March 2022). The following instruments are offered in this Period:

La Silla

[EFOSC2](#) (ESO Faint Object SpeCtrograph 2)
[HARPS](#) (High Accuracy Radial velocity Planetary Searcher)
[SOFI](#) (Son of ISAAC)
[ULTRACAM](#) (High speed, three channel CCD camera)

Paranal

[CRIRES](#) (Cryogenic high-resolution IR Échelle Spectrograph)
[ESPRESSO](#) (Échelle SPectrograph for Rocky Exoplanets and Stable Spectroscopic Observations)
[FLAMES](#) (Fibre Large Array Multi Element Spectrograph)
[FORS2](#) (FOcal Reducer/low dispersion Spectrograph 2)
[GRAVITY](#) (K-band instrument for precision narrow-angle astrometry and interferometric imaging)
[HAWK-I](#) (High Acuity Wide field K-band Imager)
[KMOS](#) (K-band Multi-Object Spectrograph)
[MATISSE](#) (Multi-AperTure mid-Infrared SpectroScopic Experiment)
[MUSE](#) (Multi Unit Spectroscopic Explorer)
[OMEGACAM](#) (Wide Field Imager for the VST at Paranal)
[PIONIER](#) (Precision Integrated-Optics Near-infrared Imaging ExpeRiment)
[SPHERE](#) (Spectro-Polarimetric High-contrast Exoplanet REsearch)
[UVES](#) (UV-Visual Échelle Spectrograph)
[VIRCAM](#) (VISTA InfraRed CAMera)
[VISIR](#) (VLT Imager and Spectrometer for mid-InfraRed)
[X-SHOOTER](#) (UV-Visual-NIR medium resolution échelle spectrograph)

Chajnantor

[ARTEMIS](#) (ARchitectures de bolomètres pour des TÉlescopes à grand champ de vue dans le domaine sub-Millimétrique au Sol)
[nFLASH](#) (new FaciLity APEX Submillimetre Heterodyne receiver)
[SEPIA](#) (Swedish ESO PI receiver for APEX)

Multi-wavelength astrophysics

- **Broad parameter space:**
 - Spatial resolution: 1 deg to 2 mas
 - Wavelength coverage: 320nm to 20 μ m
 - Spectral resolution: few to 100,000

- **Imagers:**
 - FORS2, EFOSC2, OmegaCAM
 - SPHERE
 - HAWK-I, VIRCAM, SOFI, VISIR

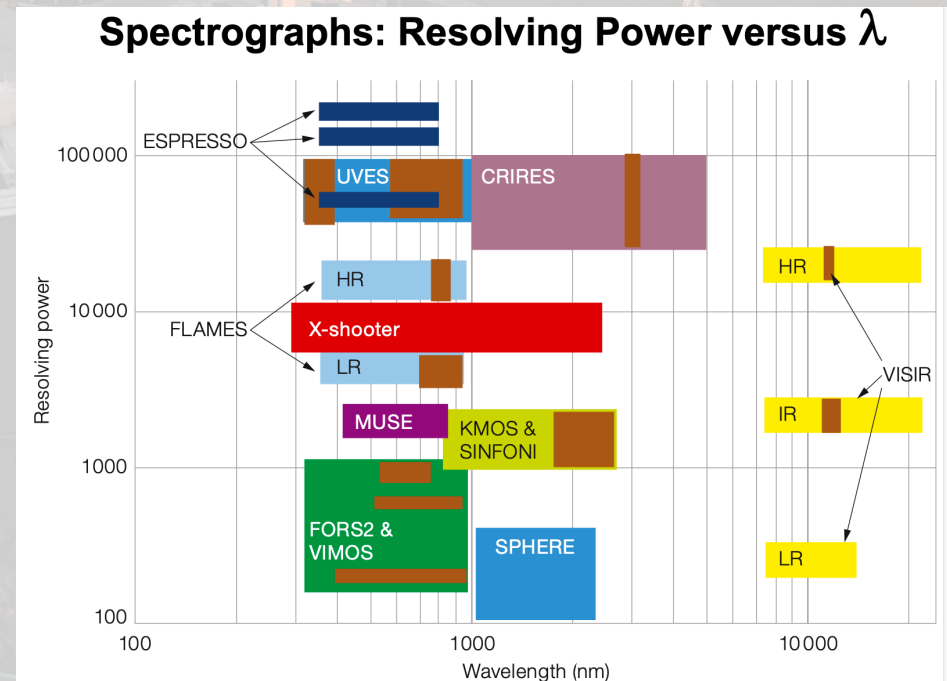
- **Spectrographs:**
 - CRIRES, ESPRESSO, UVES, FLAMES, XSHOOTER
 - FORS2, EFOSC2, SOFI, VISIR

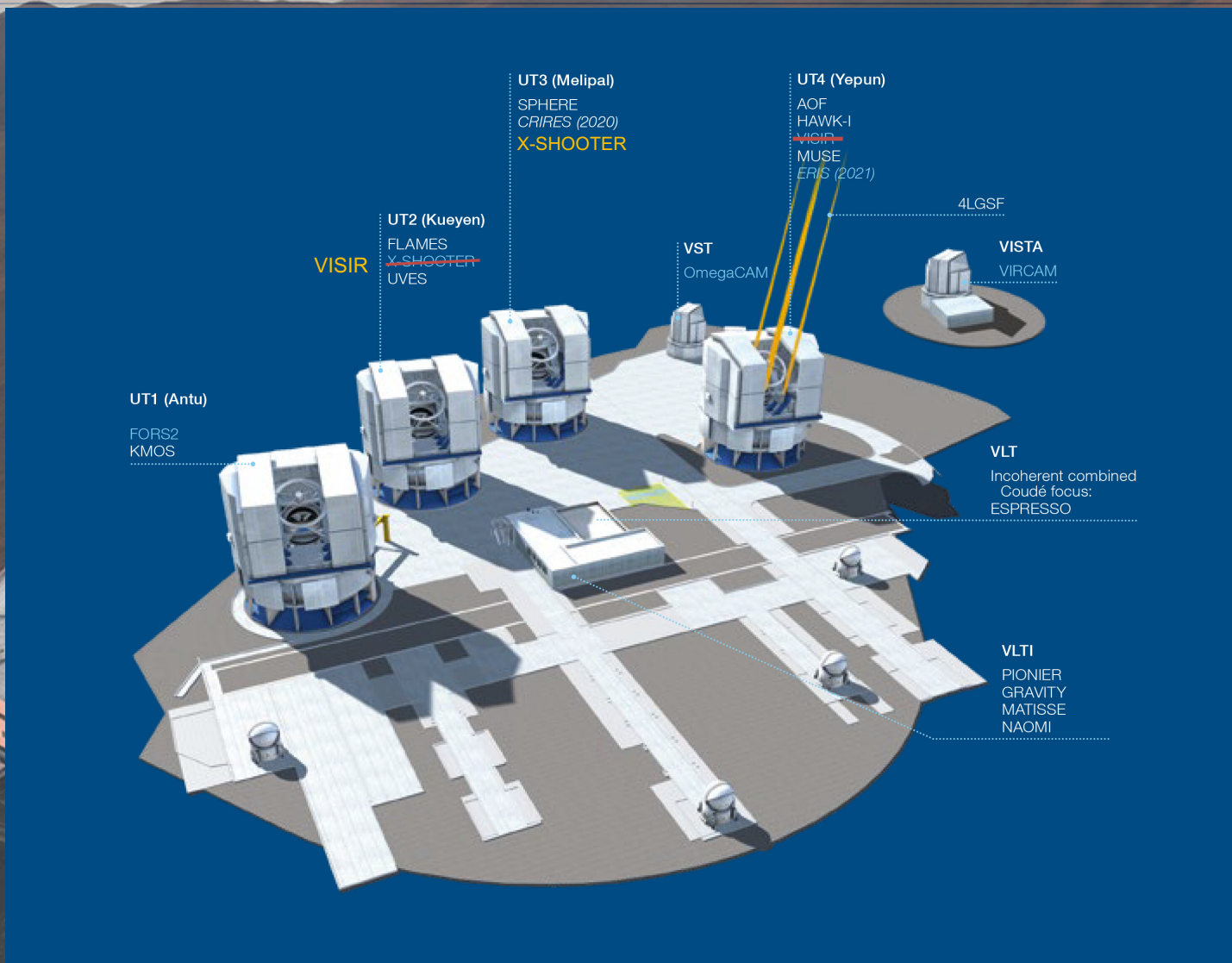
- **IFUs:**
 - MUSE, KMOS

- **MOS:**
 - FLAMES, FORS2, KMOS, EFOSC2

- **Polarimeters:**
 - FORS2, EFOSC2, SPHERE

- **Interferometry:**
 - PIONIER, GRAVITY, MATISSE

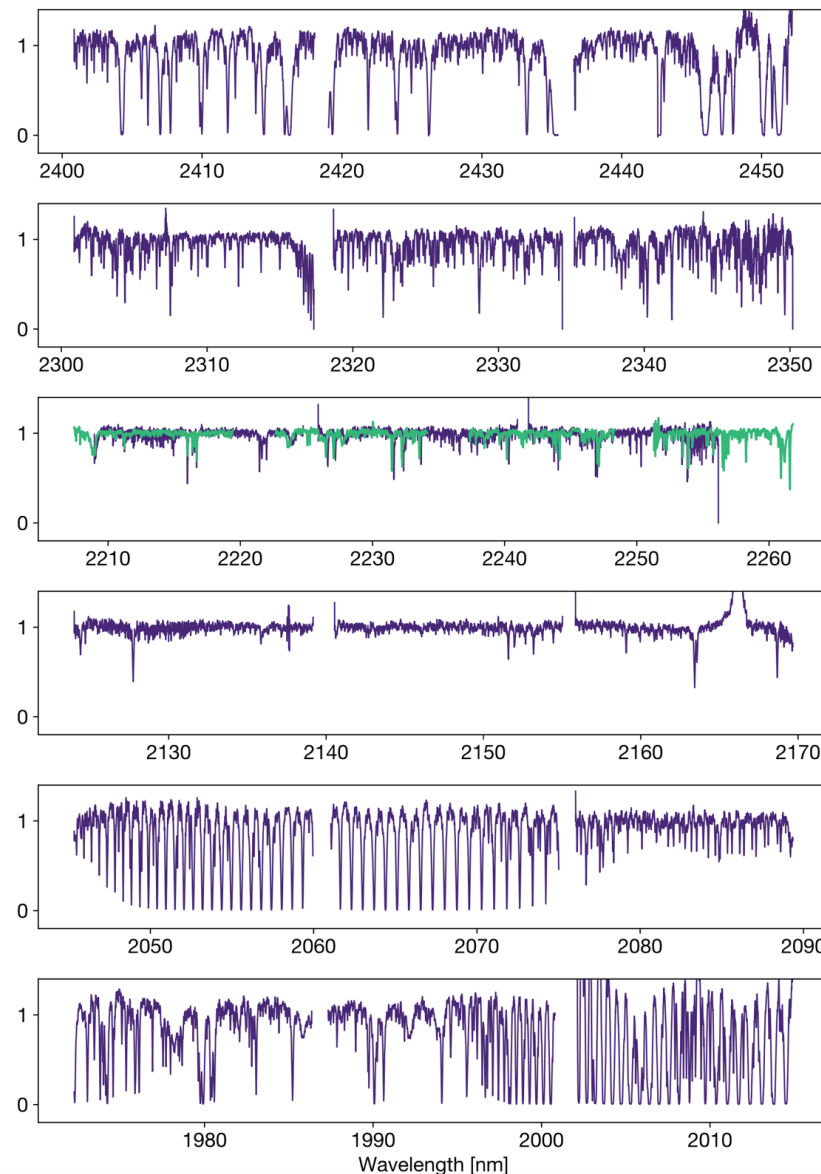




- Cryogenic high-resolution cross-dispersed IR echelle spectrograph
 - R = 40,000 (0.4" slit) / 80,000 (0.2" slit)
 - Wavelength range 0.95-5.2 μ m (29 settings)
 - On-axis NGS and no-AO modes with on-target guiding (NGS: $0.2 < R \leq 15$, SVGS=Target $0 < H < 13.5$)
 - Gas Cell for stable long-term wavelength reference

- Offered after its upgrade for the first time in P108

- Initially offered for regular spectroscopy only, with target equal to NGS and slit viewer guide star
- Spectro-polarimetry, spectro-astrometry observations, as well as off-axis AO and off-target guiding spectroscopy will be offered in the future



News & Changes

- MUSE/GALACSI NFM tip-tilt limiting magnitude to J=17 mag – commissioning in April
- ESPRESSO – offered with 4x2 SLOW binning and readout scheme in high resolution mode
 - observations of faint targets in 1UT mode
- VISIR – to be mounted on UT2 by the end of August
- Rapid Response Mode (RRM) activation even if requiring change of focus
- P108: last Period to apply for OmegaCAM@VST & VIRCAM@VISTA



- VLTI Expertise Centres:

<https://european-interferometry.eu/centres-network/>

- VLTI Imaging: optimised procedures for aperture synthesis (imaging) with the VLTI

- Only ATs and only Service Mode
- Minimum requested time and minimum time range
- Imaging slots on VLTI-ATs: 2 weeks uninterrupted SM around new moon in November, February, May and August every year

- GRAVITY: astrometry under development

- contact the astrometric team (gravity-astrometry@eso.org) 2 weeks before proposal deadline

- MATISSE: restricted use of GRAVITY as an external Fringe Tracker in the so-called GRA4MAT mode on ATs

...and more answers via:
usd-help@eso.org

