

ESO Large Scale Surveys

Peter Hammersley
phammers@eso.org

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Summary

- Imaging Surveys
 - VST
 - VISTA
- Spectroscopy
 - Several on going surveys using existing instrument
 - Call for large scale spectroscopic surveys
 - Call for spectroscopic Survey Instrument

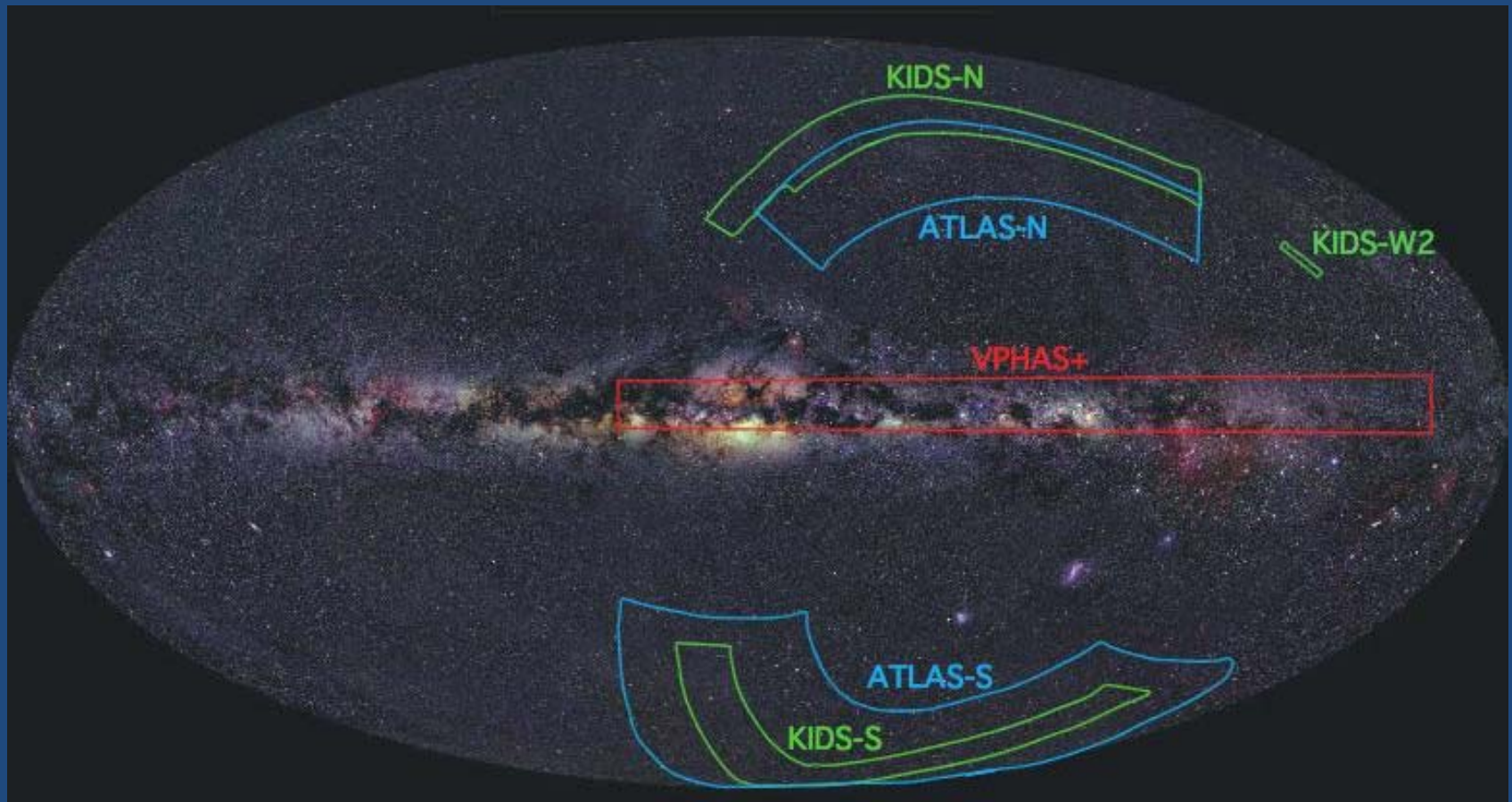
VISTA

The image shows the interior of a large telescope structure, likely the Very Large Telescope (VLT) at Paranal. The structure is composed of numerous large, curved metal segments and support beams, creating a complex, multi-layered framework. The lighting is warm and focused, highlighting the metallic surfaces. In the lower-left corner, a person is visible, providing a sense of scale to the massive size of the telescope. The overall atmosphere is one of industrial precision and scientific complexity.

- Status
 - Science Verification has finished
 - Telescope handed over to ESO
 - Paranal operations are being implemented
 - Preliminary/test observations of the VISTA surveys
 - Surveys started

VST Public Surveys

Three public surveys
(and several GTO surveys)



Existing Spectroscopic surveys

- Several large surveys with ESO telescopes
 - Exo-planet searches (>500 nights, HARPS)
 - VVDS (> 60 nights, >100000 spectra, VIMOS)
 - zCOSMOS (>60 nights, >20000 redshifts, VIMOS)
 - VIPERS (>40 nights, >100000 redshifts, VIMOS)
 - GOODS (>40 nights, FORS2, VIMOS)

New Spectroscopic surveys

- Mandate from the ESO STC to implement spectroscopic surveys
 - Massive time allocations (300+ nights)
 - Implementation between 2011 and 2016 (before other wide-field spectrographs become available)
- Call for public spectroscopic surveys to be issued in the coming months
- No pre-definition of scientific topic

Possible Instruments Include

Any ESO instrument

- VIMOS – visible slit based MOS
 - R=400- 2000 on at 1" slit
 - 200+ simultaneous objects
- FLAMES- Visible fibre MOS
 - R=20,000
 - Over 100 simultaneous spectra
- FORS2
- UVES
- HARPS
- KMOS ?

New Survey Spectrometer

- Open call to be made- no pre defined science
- Expected to have large multiplex advantage
- Call to be made soon

Vista Surveys

- Ultra-VISTA
 - ultra-deep field of a single pointing
 - Narrow-band filter tuned for $z=8.8$
- VIKING
 - Infrared part of the KIDS survey
 - Will provide the most complete wavelength coverage of all surveys
- VHS
 - Hemispheric survey of the complete Southern sky

VISTA surveys (2)

- VIDEO
 - Deep images of four well-studied fields
 - CDF-S, XMM LSS survey, ELAIS, VIDEO-field
 - Should provide an interesting comparison of multiple data sets
- VMC
 - VISTA Magellanic Cloud survey
- VVV
 - VISTA Variable in the Via Lactea
 - Galactic strip plus bulge