

# CALL FOR SCIENCE VERIFICATION PROPOSALS WITH KMOS

April 21, 2013

KMOS is a second generation VLT instrument able to perform Integral Field Spectroscopy in the near-infrared bands for 24 targets simultaneously on 24 image slicer IFUs each with a square field of view of 2.8x2.8 arcsec. Magnification in the IFU fore-optics ensures uniform spatial sampling of 0.2x0.2 arcsec whilst maintaining Nyquist sampling (~2 pixel) of the spectral resolution element at the detector.

The patrol field of the pickoff arms of KMOS is 7.2 arcmin in diameter. The spectral resolving power of  $R \sim 3000-4000$  provides velocity resolution for studies of low-mass objects and is optimal for OH-avoidance in the J & H bands. A lower spectral resolution mode is also available in the combined H+K band.

KMOS is described at: <http://www.eso.org/sci/facilities/paranal/instruments/kmos>

KMOS has gone through three commissioning runs between November 2012 and March 2013 and has been offered to the community for Period 92, for which we received a very substantial number of proposals leading us to expect a significant oversubscription factor for the first semester of regular science operations.

In line with the VLT Science Operations Policy ([www.eso.org/sci/activities/vltsv](http://www.eso.org/sci/activities/vltsv)), KMOS will be offered to the community for 2 Science Verification (SV) runs in June and September 2013 for a total of 11 nights. All astronomers in the community are invited to participate in this valuable opportunity to obtain early science with KMOS and thus to demonstrate the scientific capabilities of this unique instrument.

The observations will be conducted in Service Mode by a dedicated team of ESO astronomers. The KMOS SV team will be able to assist the successful PI's in the preparation and optimization of the OB's on a best effort basis, but please note that accurate astrometry is a crucial element of success and PI's will be required to demonstrate the feasibility of their project in the proposals. Projects deemed by the SV team to be unfeasible due to unreliable astrometry (or other issues) will be rejected without further iteration.

The arm configuration for KMOS observations is prepared using a dedicated tool, the KMOS ARM Allocator (KARMA). KARMA takes an input catalogue including objects, guide stars and reference sources that must all be on the same astrometric reference frame. **Before submitting a proposal PI's must be familiar with KARMA**, which is available at: [www.eso.org/sci/observing/phase2/SMGuidelines/KARMA.FORS.html](http://www.eso.org/sci/observing/phase2/SMGuidelines/KARMA.FORS.html).

The latest version of the KMOS data reduction pipeline will be available for reduction of the SV data. ESO will provide advice on data reduction issues on a best efforts basis, but remember that the standard practice for Science Verification ([www.eso.org/sci/activities/vltsv/svdoc.pdf](http://www.eso.org/sci/activities/vltsv/svdoc.pdf)) is that all data are made public worldwide immediately after passing the usual quality control checks.

Proposals will be reviewed by an internal panel and allocated time on the basis of scientific merit and feasibility, as well as in the demonstrated ability of the PI's to deliver results on a timely basis. Only proposals making full use of the multiplex capabilities of KMOS will be considered. Notice that, all other things being equal, preference will be given to proposals not feasible during P92. Given the timing of the SV process, proposals submitted to the OPC for P92 will not be considered for the June run, and only exceptionally for September. For the latter, only highly ranked, non-scheduled runs will be considered. The final decision on their inclusion in the September SV run will be based on the OPC grade and the merit of the proposal towards the goals of SV.

The list of protected targets for KMOS Guaranteed Time Observations is given at <http://www.eso.org/sci/observing/teles-alloc/gto/92.html>.

Please read the documentation carefully and use the KMOS exposure time calculator ([www.eso.org/observing/etc/](http://www.eso.org/observing/etc/)) to estimate the exposure times. Overheads may be estimated using the information in the Overheads webpage, which is available at <http://www.eso.org/sci/facilities/lpo/cfp/overheads.html>.

In order to simplify the distribution of the proposals to the reviewers, please use the special LaTeX template that can be downloaded from the KMOS science verification web site (<http://www.eso.org/sci/activities/vltsv/>). Proposals may be also prepared using any suitable text editor following the guidelines of the LaTeX template, but please send us **only the pdf output** and do not send finding charts at this time. The SV team will request these in due course.

Applications should be sent by EMAIL to [jmelnick@eso.org](mailto:jmelnick@eso.org) with copy to [sramsay@eso.org](mailto:sramsay@eso.org) not later than **May 24, 2013**.