



ISAAC NEWTON GROUP OF TELESCOPES
Roque de Los Muchachos Observatory, La Palma

Special call for service observing with ULTRACAM
February 2012

ING is pleased to announce a special call to our communities for applications to the WHT service programme to use the ULTRACAM instrument. Up to five bright service nights are available at the beginning of February, and individual proposals will be limited to eight hours duration, including overheads.

The deadline for receipt of proposals is midnight on Friday 20th January, and proposals should be submitted on the ULTRACAM service form:

<http://catserver.ing.iac.es/service/phase1.php?instrument=ULTRACAM>

ULTRACAM is a CCD camera designed to provide imaging photometry at high temporal resolution in three different colours simultaneously. It is mounted at the Cassegrain focus of the WHT, and provides a 5 arcminute field on its three 1024x1024 CCDs (i.e. 0.3 arcseconds/pixel). Incident light is first collimated and then split into three different beams using a pair of dichroic beamsplitters. One beam is dedicated to the SDSS u' filter, another to the SDSS g' filter and the third to the SDSS r', i' or z' filters. In addition there are clear filters, CIII/NIII+HeII (4662 Å), NaI (5912 Å), Halpha (6562 Å, broad and narrow), narrow-band continuum (5150 Å and 6010 Å) and blue (3500 Å and 4170 Å) filters, which can be used in combination with each other or with the SDSS filters.

Because ULTRACAM employs frame-transfer CCDs, the dead-time between exposures is negligible and, using two small windows, it is possible to read the CCDs out at up to 500 frames per second. Many observations do not require such high frame rates, of course, and ULTRACAM is equally capable of observing extremely faint targets with large windows on timescales of seconds with (typically) 25 milliseconds dead-time between each frame.

Each image taken by ULTRACAM is time-stamped using a dedicated GPS system to an accuracy of better than 50 microseconds and a pipeline data reduction system is provided to enable real-time assessment and full reduction of the light curves. ULTRACAM employs very high-quality optics, detectors and coatings, resulting in zero points on the WHT of approximately u' = 25.1, g' = 26.9, r' = 26.3, i' = 26.1, z' = 25.3.

Background information on ULTRACAM at the WHT is available at:

<http://www.ing.iac.es/PR/newsletter/news6/ins4.html>

and further technical details, and links to the signal-to-noise and frame-rate calculators, are available on the ULTRACAM web pages:

<http://www.vikdhillon.staff.shef.ac.uk/ultracam/>

Marc Balcells, balcells@ing.iac.es
Isaac Newton Group
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