Call for proposals for the Liverpool Telescope

Semester 2011A

The Liverpool Telescope is a 2.0 metre fully robotic telescope sited at Observatorio del Roque de Los Muchachos, La Palma, Canary Islands. The Liverpool Telescope Time Allocation Committee is now accepting proposals for PATT time for observations in Semester 2011A (1st February 2011 to 31st July 2011). Full details of the telescope, **instrumentation and proposal submission** are given at:

http://telescope.livjm.ac.uk/

A call for **reactive time** proposals for small amounts of **reserved 10B time** will follow. Applicants may apply under both calls within the guidance of each.

Time available and deadline

The deadline for submission is 30th September 2010.

The total available time for PATT users in 2011A excluding pre-allocated time is around **185 hours**. This is a considerable increase on previous A-semester availability due to significant increases in operational efficiency, although a large amount of time was pre-allocated from 10B proposals. Time will be approximately uniformly distributed between Priority A and B. Twice as much time is allocated to average categories than to good and spectroscopic categories to account for typical distribution of conditions.

Instrument availability

The instruments available are the RATCam, RINGO2, RISE and FRODOSpec.

- **RATCam** is an optical CCD camera with a 4.6 × 4.6 arcmin field of view. The available filters are Sloan u', g', r', i', z', Bessell B and V, and Hα. Observations can also be obtained without filters.
- The **RINGO2** polarimeter is a new JMU Astrophysics Research Institute internally-funded fast-track instrument offering significant improvements on RINGO.
- **RISE** is fast-readout camera developed in collaboration QUB. It has a fixed "V+R" filter (similar to that used in RINGO) and reimaging optics giving a 7 × 7 arcmin field of view. An e2V frame transfer detector is used to obtain a cycle time of less than 1 second
- **FRODOSpec** is the multi-purpose **integral-field input spectrograph**. See the telescope website (below) for updated performance information, but the specification allows observations at 380 to 1000 nm in either low (~2400) or high (~5400) resolution mode. The IFU provides an 12 × 12 lenslet array over a total field of view ~10 arcsec.

Note that all instruments are now designated common user, but potential users are welcome to contact the **LT Support Astronomers**, Robert Smith or John Marchant (ltsupport_astronomer@astro.livjm.ac.uk) directly to discuss the capability of the instrument and feasibility of the observing programme **well before** submitting an observing proposal.

Standards

The telescope routinely observes standard stars with **RATCAM only**. These standards will be taken in B,V,r,i and z (i.e. g,U and H alpha standards will NOT be taken). NO standards will be taken for remaining instruments (RISE, RINGO, FRODOSpec). Observers who wish to obtain standards, apart from those that are routinely observed, will need to include observations of these standards in their own programmes.

Information on all these instruments is available at:

http://telescope.livjm.ac.uk/Info/TelInst/Inst/

Proposal process

Applications are submitted in two phases:

Phase 1 – the science definition phase

Phase 1 proposals are sent to the Telescope Allocation Committee (TAC) outlining the science case for observation and, in particular, why they are **suitable for a robotic telescope**.

- See telescope.livjm.ac.uk/Info/PropInst/ for instructions on how to **prepare and submit** your Phase 1 proposal.
- Please note the requirement to specify a **Minimum Usable Fraction** (MUF – see below).
- Please note the guidance on **Maximum Group Length** available at http://telescope.livjm.ac.uk/Info/PropInst/phase1.php#Instruments but users with a particularly strong case should not be put off by this constraint.

Phase 2 – the observation specification phase

Once proposals have been approved by the TAC, users can enter observation requests using the Phase 2 User Interface, an online Java tool to program observation instructions and transmit them directly to the telescope. (See telescope.livjm.ac.uk/Info/PropInst/phase2.php where extensive online help is available.) The LT Support Astronomer is also available to assist with phase 2 submission.

Priority Definition

Successful proposals are entered into the observing queue with one of three rankings:

A. High priority programmes. The TAC would like to see **100% completion** of the observations.
B. Medium priority programmes. The TAC would like to see **at least the MUF** of observations obtained, provided this does not impact on the completion of priority A programmes.
C. Low priority programmes. These programmes are used to over-subscribe the observing queue so that the telescope is not idle. There is no guarantee that any observations will be obtained. If observations are started for a programme then the scheduling software should **aim to obtain at least the MUF** of the observations, but not at the expense of 100% completion of priority A or B programmes. There will be approximately an additional 105 hours available for priority C programmes in semester 2011A, spread across all observing conditions.

Minimum Usable Fraction

The **MUF** (Minimum Usable Fraction) was introduced by the PATT TAC to help the LT technical team schedule observations effectively, e.g., to decide whether to finish the observations for one programme or to start a new programme that may not be completed. Please specify the MUF for your programme in the technical case of the Phase 1 proposal. For example, the MUF can be used to specify that "any observations would be usable" (MUF=1%), or "a complete or nearly complete sample is essential to achieve the science goals" (MUF=90%). The TAC may revise the MUF of successful proposals if they feel this is appropriate.

Telescope performance

The current **rms pointing** of the LT is 6 arcsec. The current **tracking performance** provides seeing-limited images (FWHM < 0.8 arcsec) for exposures up to **1 minute** without the auto-guider (**open loop**) and up to **30 minutes** with the auto-guider (**closed loop**). Individual exposures with the auto-guider are limited to 30 minutes.

Observing conditions

We welcome applications for all available observing modes, conditions and RA ranges, particularly those that take advantage of the **robotic** nature of the LT. The PATT time available is divided so that there is twice as much average time as good or spectroscopic time – to reflect the typical distribution of conditions in time such that half the period is in average conditions. Average time tends to be the most over-subscribed. There is much less competition for observations that can be done in good and/or spectroscopic conditions.

Dr Stewart Eyres, Chair, PATT Liverpool Telescope Time Allocation Committee.