

Call for proposals for the Liverpool Telescope

Semester 2010B

Agreement has been reached between STFC and LJMU that funding for the LT will continue as normal until the mid-point review of the LT grant in 2012. This means that allocation of time can proceed as normal for semesters until that date. An announcement to this effect is now on the LT website (<http://telescope.livjm.ac.uk/>).

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 2010B (1st August 2010 to 31st January 2011). Full details of the telescope, **instrumentation and proposal submission** are given at:

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

Time available and deadline

The deadline for submission is 31st March 2010.

The total available time for PATT users in 2010B excluding pre-allocated time is around **318 hours**. This is a considerable increase on previous B-semester availability due to significant increases in operational efficiency. Time will be approximately uniformly distributed between Rank A and B time, and between the observing conditions categories.

Instrument availability

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

- **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 H α . 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 new 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.
- **SupIRCAM** is an infrared camera operating at J or H band with a 1.7×1.7 arcmin field of view. Note that the reliability of SupIRCam cannot be guaranteed; this instrument is offered on a "shared-risk" basis only.

Note that all instruments are now designated common user, but potential users are welcome to contact the **LT Support Astronomer**, Chris Moss (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.

Beginning in semester 2010A 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, SuperIRCam, RINGO, FRODOSpec). Observers who wish to obtain standards, apart from those which 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 new 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 <http://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.

Rank 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 of 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 111 hours available for Band C programmes in semester 2010B, spread across all observing conditions.

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 spread equally between all observing 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.