

## Special Call for proposals for the Liverpool Telescope

### Reactive Time in Semester 2010B

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 has determined a requirement for a reactive proposal mechanism for short amounts of time on the Liverpool Telescope. This will begin in Semester 10B and continue into the future. Proposals will be accepted in two categories:

- (a) requests for test observations intended as feasibility studies for full proposals to be submitted in future 'normal' semester-based applications rounds. Such proposals will only be able to request up to three hours of telescope time. Non-urgent projects that need less than three hours of time to achieve their science goals should be the subject of full proposals in the normal semester-based system. Multiple proposals making up larger single projects will not be accepted.
- (b) unforeseen requests for targets of opportunity or observations in support of existing projects (esp. simultaneous with other observing programmes) which were not anticipated at the time the original semester allocation round. Target-of-opportunity programmes aimed at foreseeable phenomena such as supernovae, novae, gamma-ray bursts, etc, are the subject of proposals in the normal applications system.

See the webpage below for further information.

Full details of the telescope and **instrumentation** are given at:

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

### Proposal process

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Applications may be submitted at any time via the URL below. As for standard applications, the process has 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** and why they are **appropriate to the reactive time** process.

- Proposals are submitted via <http://telescope.livjm.ac.uk/Info/PropInst/reactive.php> and the TAC will look to respond with a decision in short order.
- Please note the guidance on **Maximum Group Length** available at <http://telescope.livjm.ac.uk/Info/PropInst/phase1.php#Instruments> although most observations will not be impacted by this.

#### ***Phase 2 – the observation specification phase***

Once the TAC has approved a proposal, 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. Observations will not be executed until this is complete. (See [telescope.livjm.ac.uk/Info/PropInst/phase2.php](http://telescope.livjm.ac.uk/Info/PropInst/phase2.php) where extensive online

help is available.) The LT Support Astronomers are also available to assist with phase 2 submission.

## Instrument availability

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

- **RATCam** is an optical CCD camera with a  $4.6 \times 4.6$  arcmin field of view. The available filters are Sloan u', g', r', i', z', Bessell B and V, and H $\alpha$ . 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  $7 \times 7$  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  $12 \times 12$  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 Jon Marchant ([ltsupport\\_astronomer@astro.livjm.ac.uk](mailto:ltsupport_astronomer@astro.livjm.ac.uk)).

## 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/>

## Telescope performance

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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

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Applications should specify observing condition requirements in line with the standard categories applied in the normal PATT round. Applicants are responsible for ensuring that time requested is appropriate to current Moon phase as regards Dark and Bright time.

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