

# SCIENCE WITH ALMA BAND 11

## FIRST ANNOUNCEMENT OF AN OPEN WORKSHOP

Queen's College, University of Oxford, UK, March 19th-20th, 2013

There are three atmospheric windows in the 1.0-1.6 THz frequency range, and these offer the potential of performing astronomical observations with ALMA at supra-terahertz frequencies. The realisation of ultra-high-resolution interferometry in the supra-terahertz windows is an exciting prospect, and would yield a unique, high profile return to the ALMA community. It cannot be achieved in space, it cannot be achieved using any other ground-based facility, and it would exploit ALMA's capability to the limit. The challenges associated with operating at frequencies above 1 THz are great, but the scientific rewards are likely to be considerable and might well justify a long-term investment in this waveband.

In order to assess the scientific potential of Band 11, and to perform preliminary quantitative studies of likely site characteristics and instrument performance, the European Southern Observatory has initiated a study that will result in a report on the scientific case for supra-terahertz operation. In the context of this study we are holding an Open Workshop at the University of Oxford in March 2013.

The aims of the Workshop are to (i) assess the scope of the scientific opportunities available, (ii) develop the programmes within each of the main themes; (iii) identify synergies with other space-borne and ground-based facilities; and (iv) identify a number of top-level science cases. Topics include, but not exclusively, continuum emission from cold molecular clouds, far-infrared spectroscopy of galactic and extragalactic ISM cooling lines such as [CII],[NII],[OI], and [CI] and CO, light-hydrate observations of prestellar cores, and solar-planet and extra-solar-planet observations. Although the Workshop will focus the overall science case for Band 11, the challenges will be put into context by having a small number of presentations on the site, likely interferometer performance, and technical difficulties. The discussion at the Workshop will play a pivotal role in formulating the report to ESO, which will be influential in determining the future of Band 11.

The Workshop will take place in the Shulman Auditorium at Queen's College, University of Oxford UK, on 19<sup>th</sup> and 20<sup>th</sup> March, 2013. There will be a number of invited reviews, some contributed talks, together with ample time for discussion. We anticipate a small, focused meeting with approximately 50 participants. There will be no registration fee. A limited number of en-suite bedrooms will be available in the College on the night of the 19<sup>th</sup> March. The cost of accommodation including breakfast is £81.00, which includes a significant discount, and we hope to organise a dinner in Hall at a subsidised cost of approximately £34.

Can you please indicate whether you would like to take part in this meeting, and additionally if you would like to give a 15min presentation on some aspect of a possible science case.

All correspondence should be directed to: [almab11@physics.ox.ac.uk](mailto:almab11@physics.ox.ac.uk)

We look forward to seeing you on the 19<sup>th</sup>.

Scientific Organizing Committee:

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