



Physical Research Laboratory, Ahmedabad

SPECIAL COLLOQUIUM - 14 - 16

- Speaker:** **Dr. Helen Mason**
Department of Applied Mathematics and Theoretical Physics,
Cambridge, UK.
- Title:** **“The Active Sun: what have we learnt from recent Space Observations?”**
- Time:** **Thursday, 20 November, 2014, 16.00 hrs.**
- Venue:** **Seminar Hall, Above NANOSIMS Laboratory, PRL.**

Abstract

The Sun is at the peak of its activity cycle, and we are therefore able to study active regions, flares and coronal mass ejections with several solar space observatories: SoHO, Hinode, SDO and most recently IRIS. An overview will be given of recent research, in particular that carried out by Dr Mason's group at the University of Cambridge, UK. Spectroscopic diagnostics (using the CHIANTI atomic database) are used to determine the plasma parameters, so that theoretical predictions can be matched against the observations.

The Speaker

Dr. Helen Mason did her undergraduate and postgraduate degrees at the University of London. For her PhD, she worked on solar eclipse data, under the supervision of Prof. Mike Seaton at University College London. She was the first person to carry out extended and accurate calculations for the coronal forbidden lines. In the late 1970's she moved to Cambridge to work with Dr. Alan Burgess, an expert in atomic and solar physics. Over the past three decades, Dr. Mason has been involved in many solar space projects: Skylab, Solar Maximum Mission, Spacelab and YOHKOH. In recent time she has been working with data from the UK/USA/Japanese solar satellite, called Hinode, launched in 2006, and with the Solar Dynamics Observatory (SDO) a NASA mission, launched in 2010, as part of the Living With a Star (LWS) program. She heads a group that has a very high international reputation in the field of solar physics with particular expertise is the analysis of ultraviolet and X-ray spectra from the solar atmosphere and carries out both theoretical simulations and observational work. Among other things, Dr. Mason is a founder member of the highly successful international collaboration (UK/USA/Italy) called CHIANTI - an atomic database for the analysis of astrophysical spectra.

She leads the outreach project, Sun|trek (www.suntrek.org), and has given many talks to schools and the public. She has also worked with the BBC, TV and radio. In 2010 she was named as one of six 'Women of Outstanding Achievement'.

Dr. Mason has just been honoured, in June 2014, with the award of The Most Excellent Order of the British Empire (OBE). She has been recognized for the work that she has done with professional scientists, the scientists of the future, and the public at large and also because she has been important in encouraging women, in particular, to participate in the physical sciences.

Tea at 15:30 hrs.
ALL ARE WELCOME

