

国台学术报告 NAOC COLLOQUIUM

2012年 第50次 / Number 50, 2012

TIME: Monday, 3:00 PM, Sep 17, 2012 **LOCATION: A135 NAOC**

Magnetohydrodynamic Seismology of the Solar Corona

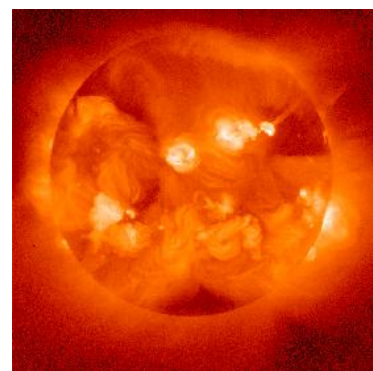


Prof. Valery Nakariakov (University of Warwick)

Professor Valery Nakariakov's research interests are connected with solar physics, and, in particular, with MHD wave processes in the solar corona, solar radiophysics and physics of solar flares. He graduated the School of Radiophysics of the Gorky State University (USSR) in 1989, and got his PhD in Plasma Physics in 1993 at the Institute for Applied Physics of the Russian Academy of Sciences. In 1995-1999 he was a postdoctoral research fellow at St Andrews, working with Professor Bernie Roberts. Since 1999 he has a permanent faculty position in the Physics Department of the University of Warwick, UK. From 2007 he is Full Professor in the Centre for Fusion, Space & Astrophysics of the University of Warwick. From 2010 he is a Chair of the Board of UK Solar Physics. In September 2011 he was elected President of the European Solar Physics Division.

Abstract

Wave and oscillatory phenomena with typical period ranging from a few seconds to tens of minutes are confidently observed with modern imaging and spectral instruments in the EUV, X-ray and radio bands in all parts of the solar corona. Magnetohydrodynamic (MHD) wave theory gives satisfactory interpretation of these phenomena in terms of MHD modes of coronal plasma structures. The talk reviews the current trends in the observational study of coronal waves and oscillations, recent development of theoretical modelling of interaction of MHD waves with plasma structures, and implementation of the theoretical results for the mode identification. Main emphasis is put on the standing and propagating kink fast magnetoacoustic waves observed with SDO and STEREO missions. The use of MHD waves for remote diagnostics of coronal plasmas - Coronal Seismology - is discussed, and the applicability of this method for the estimation of coronal magnetic field and fine structuring is demonstrated.



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).