

国台学术报告 NAOC COLLOQUIUM

2012 年 第 55 次 / Number 55, 2012

TIME: Thursday, 10:00 AM, Oct 11, 2012 **LOCATION: A601 NAOC**

Structure and Dynamics of the Solar Corona: Modeling and Observations

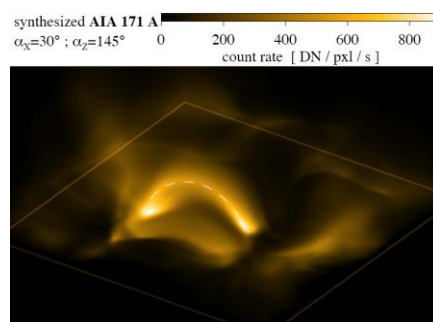
Dr. Hardi Peter (Max Planck Institute for Solar System Research)



Hardi Peter is a senior scientist at the Max Planck Institute for Solar System Research in Katlenburg-Lindau, Germany, where he is the head of the group on Coronal Dynamics. He received his PHD at the University of Göttingen, Germany, working on theoretical models of solar wind formation. As a PostDoc in Boulder, USA, he turned to spectroscopic observations of the Sun, in particular to the shape and shift of emission lines from the corona. Moving back to Germany, to the Kiepenheuer Institute in Freiburg, he build up a group focussing on modeling the corona of the Sun. Now at the Max-Planck-Institute his main interests still revolve around physical processes sustaining the million Kelvin hot corona. Besides his research work he is also teaching at the University of Göttingen.

Abstract

One of the great questions in Astrophysics is how a cool star can sustain a hot outer atmosphere, the corona. The Sun presents us with a detailed view of the structure and dynamics of the million Kelvin hot plasma. Modern numerical experiments can show how these structures form and how they evolve. Realistic 3D magnetohydrodynamic models can be used to synthesize coronal emission lines that allow a direct comparison between model and observations. This let us understand, e.g., what causes the persistent line shifts in the corona or why loops observed in extreme ultraviolet appear to have a constant cross section. In the end these results let us draw some conclusions on the spatial and temporal distribution of the heat input, bringing us closer to answering the question of coronal heating.



All are welcome! Tea, coffee, biscuits will be served at 9:45 A.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).