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TIME: Wednesday, 2:30 PM, Jan. 09, 2013 **LOCATION: A601 NAOC**

The Role of Magnetic Flux Rope in Solar Eruptions and Space Weather

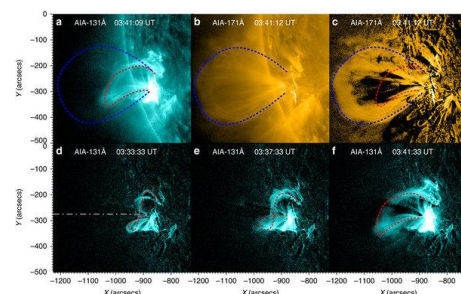
Dr. Jie Zhang (George Mason University)



Dr. Jie Zhang is an associate professor at George Mason University. He obtained his PhD of Astrophysics from University of Maryland in 1999. He had been a Post-doctoral researcher at Naval Research Laboratory, and joined in the George Mason University in 2000. In addition to teaching and training, he is dedicated to research work in the areas of solar physics and space weather. He is interested in understanding the physical mechanisms of solar flares and coronal mass ejections (CMEs), the two most energetic phenomena occurring on the Sun but affecting the environment throughout the entire solar system, including the space near the Earth, Moon and Mars. He has obtained eight research grants with the role of principle investigator from National Aeronautics and Space Administration (NASA) and National Science Foundation (NSF), and has authored and co-authored about 45 refereed scientific papers.

Abstract

Solar eruptions, in the form of solar flares and coronal mass ejections (CMEs), are the most energetic phenomena in the solar system. Solar eruptions are also the driver of severe space weather that may affect satellite operation, communication, navigation and other advanced modern technological systems. Thus, the research of solar eruptions is not only of great scientific interest, but also has importance practical purposes. I will present the state-of-the-art observations of solar eruptions from SDO, STEREO and SOHO spacecraft. I will further discuss the physical mechanisms of solar eruptions, with a focus on the two contrasting paradigms: the non-ideal MHD process of magnetic reconnection versus the ideal process of flux rope instability. The observations and theory regarding the CME propagation in the interplanetary space will also be discussed.



All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.

You are welcome to nominate speakers to Weimin Yuan (wmy@nao.cas.cn, Jan-Mar), Mei Zhang (zhangmei@bao.ac.cn, Apr-Jun), Licai Deng (licai@bao.ac.cn, Jul -Sep), Xuelei Chen (xuelei@cosmology.bao.ac.cn, Oct -Dec).