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# 国台学术报告 NAOC COLLOQUIUM

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**Time: Wednesday 2:30 PM, April 06**      **Location: A601 NAOC**

## Solar flares and energetic particles

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Dr. Eduard Kontar is a Reader in Solar Physics at University of Glasgow, UK. He graduated and got PhD of Physics in Ukraine Kiev University in 2000, and then he got a post-doctor position in University of Glasgow. He got his Associate Professor in 2008 and then promoted to Reader around 2013. His research interests are in solar flare energetic particles and plasma kinetic theory, including the theory of particle acceleration and propagation, radio and X-ray emission mechanisms, inverse theory and the development and application of new methods of X-ray data analysis for RHESSI mission.

### **Abstract**

During periods of sporadic flare activity, the Sun releases energy stored in the magnetic field into the plasma of the solar atmosphere. This is an extremely efficient process, with a large fraction of the magnetic energy going into plasma particles. The solar flares are accompanied by prompt electromagnetic emission virtually over the entire electromagnetic spectrum from gamma-rays down to radio frequencies. The Sun, through its activity, also plays a driving role in the Sun-Earth system that substantially influences geophysical space. Solar flare energetic particles from the Sun are detected in interplanetary space by in-situ measurements making them a vital component of the single Sun-Earth system. Although a qualitative picture is generally agreed upon, many processes solar flare processes are poorly understood. Specifically, the processes of acceleration and propagation of energetic particles interacting on various physical scales remain major challenges in solar physics and basic plasma physics. In the talk, I will review the current understanding of solar flare energetic particles focusing on recent observational progress, which became possible due to the numerous spacecraft and ground-based observations.

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