

TOPICAL ISSUE OF SOLAR PHYSICS ON “EARTH-AFFECTING SOLAR TRANSIENTS”

We solicit research articles on the subject of Earth-affecting Solar Transients. In the past decade, nearly continuous observations of the Sun and the inner heliosphere with an unprecedented wide spatial coverage from a fleet of spacecraft, including STEREO Ahead/Behind, SDO, SOHO, Messenger, Venus Express, ACE and WIND, in combination with a significant advancement of global MHD numerical simulation and theoretical analysis, have greatly improved our understanding of solar transients and the prediction of their potential impact on Earth. Recently, the ISEST (International Study of Earth-affecting Solar Transients) Program was launched to bring together scientists across many countries to join efforts on addressing this problem. The event catalogs, data and information used during the past three ISEST workshops can be found at http://solar.gmu.edu/heliophysics/index.php/Main_Page [1]. The ISEST is one of the four projects of the VarSITI (Variability of the Sun and Its Terrestrial Impact) Program, sponsored by SCOSTEP (Scientific Committee on Solar-Terrestrial Physics) for the period 2014 - 2018.

Earth-affecting solar transients encompass a broad range of phenomena, including major solar flares, CMEs, ICMEs, solar energetic particle events, and co-rotating interaction regions. We solicit research articles that address, but are not limited to, the following questions: (1) how do various geo-effective phenomena originate? (2) how do they propagate and evolve in the inner heliosphere? (3) how can we reconcile in-situ and remote-sensing data on the transients? (4) how can we predict the probability of arrival, time of arrival, and geo-effectiveness of these phenomena? (5) what kind of solar wind transients are geoeffective and why? Articles on observational, numerical, and theoretical studies are all welcome. We particularly encourage results on campaign events listed in the ISEST website. This Topical Issue is not a conference proceedings volume and is not limited to research presented at the ISEST workshops. All submissions must be original papers that meet the quality and peer-review standards of Solar Physics.

The deadline for the Statement of Interest (SOI) is 15 June 2016, and the deadline for manuscript submission is 15 September 2016. Please submit the SOI (i.e., title, authors, a short abstract, and three potential referees) to Jie Zhang at jzhang7@gmu.edu.

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