

Space Weather: From Earth to Exoplanets

Dibyendu Nandi^{1,*}

1 Center of Excellence in Space Sciences India and Department of Physics Sciences, IISER
Kolkata

* Presenting author (dnandi@iiserkol.ac.in)

The dynamic magnetic activity of stars such as the Sun modulates the electromagnetic, particulate and radiative environments of planets such as the Earth. This variable astrophysical environment, termed as space weather, not only creates hazards for our satellite systems and space-reliant technologies, but also has a profound influence on planetary atmospheres and climate. This intimate relationship between planets and their host stars extend to exoplanetary systems, shapes the evolution of exoplanetary atmospheres and determines planetary habitability. In this talk, I shall discuss the diverse ways in which the activity of stars create space weather – influencing planets and exoplanets – focussing on the underlying physical pathways of these star-planet interactions.