

Space Weather

Prof. H. M. Antia

(Senior Professor (Retired), Department of Astronomy & Astrophysics, TIFR & CEBS)



The NRAO radio telescope and the beautiful red aurora in the 11th November sky. Eastern Sierra, Owens Valley, Big Pine, CA, USA. Image credit: Ross Stone

Space weather generally refers to conditions above the Earth's atmosphere. Extreme space weather events are caused by solar radiation in X-rays or radio wavelengths or through the flux of charged particles. Although these events have been occurring all the time, their effect has only been felt in the last 170 years after human beings started using electricity and other technologies on large scale. These events can affect power supply, communication, navigation, aircraft and spacecraft operations. After a qualitative description of basic mechanisms for space weather and its effect on the Earth, some of the consequences from a few strong events will be described.



Prof. H. M. Antia is a distinguished astrophysicist who specializes in solar physics, helioseismology, and the development of numerical techniques for studying stellar interiors. He is currently teaching at the UM-DAE Centre for Excellence in Basic Sciences(CEBS) at the University of Mumbai, having spent a significant portion of his career in Department of Astronomy & Astrophysics, at the Tata Institute of Fundamental Research (TIFR). Prof. H. M. Antia played a significant role in India's first multi-wavelength astronomy satellite, AstroSat, primarily serving as a key member for the LAXPC instrument team at TIFR, where he did the development of the crucial GEANT4 detector simulations, calibration software and data processing pipeline programs, which are extensively used by end users for data analysis. He is the author of the textbook Numerical Methods for Scientists and Engineers."

2nd Januaruy, 2026 at 4:00 p.m.

(Hybrid), Lecture Theatre AG66, TIFR

YouTube Live : <https://youtu.be/5IBzG0HaXY>



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