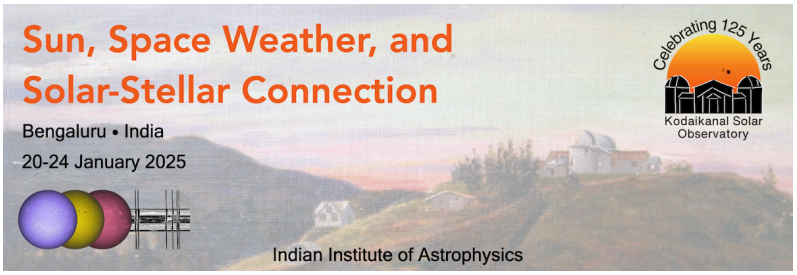

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Solar EUV, UV & X-ray Irradiance Variability and Their Impacts on Earth's Climate and Space Weather

Solar EUV, UV & X-ray Irradiance Variability and Their Impacts on
Earth's Climate and Space Weather
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It is important to study the variabilities of solar EUV, UV and X-ray irradiance in heliophysics, in Earths climate, and space weather applications. Since the radiative output of the Sun is one of the main driving forces of the terrestrial atmosphere and climate system, the study of solar energy has become of great interest and importance. Although the solar energy flux integrated over the entire spectrum is considered to be one of the major natural forces of the Earths climate system, studying the extreme ultraviolet (EUV), ultraviolet (UV) and X-ray irradiance variability is particularly important in solar and terrestrial physics. The solar EUV, UV and X-ray fluxes play in particular a major role in the heating of the Earths atmosphere and Solar-Terrestrial relationships. Thus it is an important issue to understand their variability and its applications in Earths climate and space weather.
In this paper we discuss the variability of the total intensity, temperature and magnetic field of different coronal features such as active regions (ARs), coronal holes (CHs), X-ray bright points (XBPs) and background regions (BGs) for Solar Cycle 24. The contribution of all these features to total energy flux over the full disk will be determined, including the total temperature and magnetic field. The magnetic field is the main source of all the surface features of the Sun. The role of magnetic field on the variability of intensity and temperature of the coronal features and the impacts of EUV/UV/X-ray irradiance variability on Earth's Climate & Space Weather is discussed in great detail in this paper.

Contribution Type

Poster

Theme

Solar Magnetism over Long-Time Scales

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