

Sun-Earth relation: Historical development and present status-A brief review

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The Sun and Earth are intimately related. A few decades ago, it was assumed that the relationship was only through the incidence of solar visible and infrared radiation on the surface of the Earth. However, it was soon realized that many powerful solar radiations reached the top of the terrestrial atmosphere but got absorbed in the upper part of the atmosphere, causing significant changes in the terrestrial environment. In this review, various processes are described, first on the Sun where various solar structures evolve, later in the interplanetary space due to escaping solar wind, and further in the interaction of the solar wind with the Earth's magnetic field, containing it in the magnetosphere and entry through the neutral point in the magnetotail. Resulting phenomena like auroras, ring current etc. are described. Present status of solar and interplanetary environments and their terrestrial effects is briefly outlined.