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Natural spacecraft-Moon, challenge for monitoring Sun, solar wind and the different region of magnetosphere

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To understand the properties of the solar terrestrial environment and to develop a quantitative model of the magnetosphere-ionosphere-thermosphere subsystem, which is strongly coupled via the electric field, particle precipitation, heat flows and small scale interaction, it is necessary to design and build new generation multi-point and multi-type sensor diagnostics. Ground-based multi-frequency and multi-polarisation netted radio and radar facilities and observation clusters in space will be helpful to find solutions to problems in space physics and to detect long-term environmental changes. The Moon offers an excellent platform to located the radio waves instruments for monitoring the electromagnetic emissions in near Earth environment. The innovative new radio measurements on board of near Earth orbiting satellite and the new type LOFAR-LOIS radio diagnostics located on the Moon's surface can improve our knowledge about turbulent plasma. Real-time access to such high-resolution, multi-region data is likely to improve the quality of different types of space related services. The presentation will give the overview of physical problems relates to diagnostics the plasma turbulence in near Earth environment and will present the challenges of moon based radio waves diagnostics.