PRESENTATION OF THE PROJECT "ERUPTIONS, FLOWS AND WAVES IN SOLAR ATMOSPHERE AND THEIR ROLE IN SPACE WEATHER"

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Various types of solar eruptions such as: filament eruptions, solar flares, Coronal Mass Ejections in solar atmosphere are common characteristics of solar activity. These activities can generate various flows and waves which carry the significant amount of energy in the upper solar atmosphere to heat it. They can affect our space weather in various ways like: geomagnetic storms, sudden ionosphere disturbances, ground level enhancements (GLEs), Solar Energetic Events (SEPs) etc. However, physics involved in these activities is poorly understood. Therefore Therefore the investigation of their physical mechanism is very crucial for the space weather prediction.

We outline a new collaborative project between scientists from the Bulgarian Academy of Sciences (BAS), Bulgaria and the Department of Physics, Kumaun University, Nainital, India. The goal of this project is to investigate the solar eruptions from small-to-large scales and the generation of various types of waves/flows in the solar atmosphere. Efforts will be made to probe the role of these activities on the space weather. For this study, we will analyze the data from various ground based and space borne instruments.