PRE-MAIN SEQUENCE STARS FROM UX ORIONIS TYPE

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For several decades we perform photometric monitoring of some of the star formation regions. We believe that the study of photometric variability of T Tauri and Herbig Ae/Be stars is of great importance in understanding stellar evolution. Many of the young stellar objects within the surveyed fields indicate a photometric variability. These variations comprise transient increases in brightness (outbursts), temporary drops in brightness (eclipses), and large amplitude irregular or regular variations for a short or long time scales.

A significant part of pre-main sequence stars show strong photometric variability with sudden quasi-Algol drops in brightness and amplitudes up to several magnitudes. During the deep minimums in brightness, an increase in polarization and specific color variability are observed. The prototype of this group of pre-main sequence objects with intermediate mass named UXors is UX Orionis. The widely accepted explanation of its variability is a variable extinction from dust clumps or filaments passing through the line of sight to the star. In this presentation, we present results of the study of several of the most interesting objects like: V1184 Tau, GM Cep, V1180 Cas, V350 Cep and others

SOME OBSERVATIONS ON EXTRATERESTRIAL SOLAR VARIABILTY AND INFLUENCE OVER ATMOSPHERIC OZONE CONCENTRATION AND SOLAR UV RADIATION FLUXES

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The impact of solar variability on terrestrial atmosphere is a research topic for many years but still remains under debate, not fully understood and explained. Several physical mechanisms are announced in the literature - the role of solar magnetic field, the role of interaction of solar UV irradiation with stratospheric ozone, the role of energetic charged particles with cosmic origin on cloud formation, the atmospheric electricity and lightning generation, but the common opinion is clear -the solar energy input is hard to predict. This study presents some results on short-time measurements of solar UV-A, UV-B, UV-C irradiation at mountain research station and observatory sites in Bulgaria.