X Serbian-Bulgarian Astronomical Conference (X SBAC) May 30 - June 3, 2016, Belgrade, Serbia Book of Abstracts, Eds. M. S. Dimitrijević and M. K. Tsvetkov Astronomical Observatory, Belgrade, 2016

Short talk

DENSITY SCALING RELATION IN ORION A: EFFECTS OF REGION SELECTION

Orlin Stanchev¹, Todor Veltchev¹ and Sava Donkov²

¹Faculty of Physics, Department of Astronomy, University of Sofia, 5James Bourchier Blvd., Sofia 1164, Bulgaria ²Department of Applied Physics, Technical University-Sofia, 8 Kliment Ohridski Blvd, 1000 Sofia, Bulgaria E-mail: o_stanchev@phys.uni-sofia.bg

Recenlty Stanchev et al. (2015) proposed a method to derive density scaling relation in a molecular cloud from analysis of the probability distribution function of column density. A possible bias of the procedure is its dependence on the selection of probe regions of different size and location in the considered cloud. We present a study of this issue, using a PLANCK map (dust opacity) of Orion A.

Short talk

MULTI-WAVELENGTH OBSERVATIONS OF A TWO-RIBBON SOLAR FLARE CAUSED BY FILAMENT ERUPTION

Tsvetan Tsvetkov, Kostadinka Koleva, Peter Duchlev and Momchil Dechev

Institute of Astronomy with National Astronomical Observatory, 72, Tsarigradsko Chaussee Blvd., 1784, Sofia, Bulgaria E-mail: tstsvetkov@astro.bas.bg

A study of a two-ribbon flare preceded by a filament/prominence eruption is presented. The event was observed between 00:00 and 08:00 UT on 2014 February 18 in a quiet region between NOAA active regions 11982 and 11977. The multi-wavelength analysis of the eruptive filament and following two-ribbon flare was made using data obtained from the Solar Dynamics Observatory (SDO), Solar Terrestrial Relations Observatory (STEREO) B and ground-based observatories. The kinematics and morphology, as well as the evolution of the overlying coronal fields were examined using the observations in optical, EUV and radio wavelengths. The trigger mechanisms of the eruptions were discussed.