

JOSO ACTIVITY REPORT 1998 - BULGARIA

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The following research groups have carried out solar physics researches in Bulgaria in 1998:

(1) Solar Physics Section of the Institute of Astronomy (IA)

(5 scientists, 1 engineer and 1 postgraduate student, no changes in the staff)

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The Section continued its work in two main directions:

1) Processing of observational material, using the automated microdensitometer and the computer facilities in NAO;
Basic research projects are:

- Dynamics of Solar Prominences (joint project with the Astronomical Institute of Wrocław University, Poland);
- Study of Solar Eruptive Prominences (joint project with Institut d'Astrophysique Spatiale, France).

2) Observations:

- Every day white-light observations in the observatories of Smolyan, Dimitrovgrad and Kardjali
- White-light flare observations in the solar station in NAO by the spectrometric system for study of fast changes of the solar spectrum.

(2) Section of Solar-Terrestrial Physics of the Solar-Terrestrial Influences Laboratory

(3 scientists and 1 postgraduate student), e-mail: stilrad@bgcict.acad.bg; mishev@stil.acad.bg

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The Section continued the analysis of data from the satellite "Interkosmos - Bulgaria 1300", and the international missions Interball, Apex and CORONAS, for study of field-aligned current structures in upper ionosphere.

(3) Section of Ionosphere Plasma Physics of the Institute of Geophysics

(3 scientists, no changes in the staff)

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In close contact with the Solar Physics Section of IA the Section of Ionosphere Plasma Physics continued to study the properties of the field-aligned currents generated by MHD surface wave modes.

(4) Plasma Astrophysics Group of the Faculty of Physics, Sofia University

(3 scientists, no change in the staff)

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The group continued to work on two problems:

- (1) Dispersion characteristics of MHD waves travelling in the magnetic flux tubes;
- (2) Influence of the Hall term in the generalised Ohm's law on the propagation of fast MHD waves in bounded solar wind plasma.

Total Solar Eclipse 1999

A lot of preparatory work was done, in connection with the 1999 total solar eclipse. For information see www.astro.bas.bg/~mdechev/eclipse.html