

The International Heliophysical Year (IHY)

In Romania

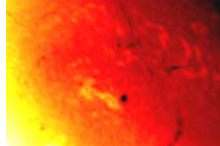
Cristiana Dumitrache, Nedelia Antonia Popescu,
Vasile Mioc



Historical Perspective



- Fifty years ago, on the occasion of the International Geophysical Year, two research teams started their activity in Romania: the solar group and the artificial Earth satellite group.
- This moment meant the set up of the Romanian astrophysics researches at Bucharest.



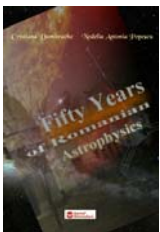
The solar observations have known three phases at Bucharest Observatory:

1. 1956-1997 – Photospheric and chromospheric survey – published in the bulletin “Observations Solaires”
2. 1999 – the total solar eclipse projects
3. 2001 -2002 – CCD H alpha observations

Solar researches:

- Observational papers and data interpretation
- Statistical studies
- MHD numerical simulations of the coronal structures – started in 1995

Publications



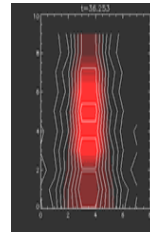
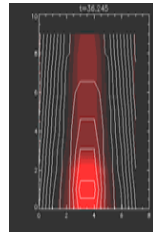
- C.Dumitrache, N.A.Popescu, *Fifty Years of Romanian Astrophysics*, 100 pp, Ed. Cartea Universitara, 2005, ISBN 973-731-236-8
- C.Dumitrache, *Protuberantele solare*, 161 pp, Ed. Cartea Universitara, 2006, ISBN 973-731-363-1
- C.Dumitrache, N.A.Popescu, *Fifty Years of Romanian Astrophysics*, 2nd edition, 100 pp, Ed. Cartea Universitara, 2006, ISBN (10)-973-731-397-6

Science Goals

Bucharest Solar Group tasks for 2007

Understanding solar processes and solar drivers

- Data analysis and interpretation.
- Linear, non-linear and statistical methods for analysis and forecast of solar and heliospheric phenomena
- Topology and evolution of solar active regions and other magnetic structures in the solar atmosphere
- CMEs and heliospheric studies
- Numerical MHD models of solar phenomena



Now, the solar team numbers seven members, five of them being young researchers.

Financed Projects

- Project EFYRA - coordinator Cristiana Dumitrache
- Project PROTEL - coordinator Petre Popescu
- Project HELGA - coordinator Nedelia A. Popescu
- Astronomy and World Heritage - coordinator Magda Stavinschi
- Solar Research Theme - Dynamic processes in solar atmosphere and heliosphere - coordinator Cristiana Dumitrache
- Bucharest Observatory Centenary - coordinator Vasile Mioc

WEBSITE: <http://www.astro.ro/ihy>

Other Proposals

- Romanian contributions to the Sun-Heliopause Studies
- Participation of the Romanian team in the COROT mission
- Improving relative positions of reference stars around ICRF radio-sources
- Modelling photoconductor detectors developed for ESA Space Science Missions in the far-infrared regime

Program Elements

- Science campaigns
- Projects proposal
- Conferences, workshops
- Publication of workshop results
- Outreach, Education, and History
 - Anniversary conference and books
 - Educational outreach
 - Public lectures
 - Booklet publication
 - Books

Events - Overall Schedule

- **2005:** Regional meeting – the set up of IHY Balkan, Black Sea and Caspian Sea Regional Network
- **2006:** International Conference *Fifty Years of Romanian Astrophysics*, Bucharest, 26-30 September 2006
- **2006:** The Second International Symposium on Space Climate *Long-Term Change in the Sun, and its Effects in the Heliosphere and Planet Earth*, Sinaia, Romania, 13-16 September 2006
- **2007:** Young Scientists International School on "*Heliosphere and Galaxy*", Sinaia, 3-5 May 2007
- **2007:** Workshop on "*Flows, Boundaries, Interactions*", Sinaia, 3-5 May 2007
- **2007:** Astronomy and Astrophysics lectures, Bucharest Observatory