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Pavel AMBROŽ and Pavel KOTRČ

*Astronomical Institute of the Academy of Sciences of the Czech Republic, 251 65 Ondřejov, The Czech Republic*

Solar research in the Czech Republic is performed at *The Astronomical Institute of the Academy of Sciences of the Czech Republic in Ondřejov.* The part of regular radio observations is carried out also at *The Observatory Úpice* (north Bohemia), a photospheric and chromospheric observation are also regularly made at *The Observatory Valašské Meziříčí* (Moravia). Altogether 15 specialists in the field of solar physics are employed in these institutions including two postgraduate students started to be educated in the field of solar flares in Ondřejov since the end of year 1997.

As the general concept of the work, activities and the instrumentation are described in the JOSO Annual Report 1997, only changes and new activities are mentioned here.

Some innovations were realized at the Multi-camera Flare Spectrograph. A system for measurement of a linear polarization (Stokes parameter Q) in the H$\alpha$ line with temporal resolution 1/25 s was tested. Instead of the $D_3$ line the $H\beta$ line is regularly registered. Now each observation contains a composed video signal with the profiles of lines H$\alpha$, H$\beta$, CaII 854.2 nm along the slit and the slit-jaw picture taken in the H$\alpha$ line. The composed signal can be also directly digitized and stored. From October 1998 the archive data are available on the server of Astronomical Institute *http://sunkl.asu.cas.cz/~kotrc/index.html.*

During 1998 a substantial modernization of the electronic controlling system of two horizontal solar spectrographs HSFA1 and 2 began. The first instrument is used for the photoelectric magnetographic measurements while the second one we expect to use for line profile analysis in three spectral lines. The line profile signal and the slit-jaw picture in H$\alpha$ line will be registered with CCD cameras.

In the year 1998 a reconstruction of the electronic control system of our 2D scanning microphotometer was finished. Computer control is based on the updated technology with a standard PC.

Ondřejov solar radio spectrographs have now an enlarged frequency range (from previous 1000-4500 MHZ to 800-4500 MHz). The present range continuously fits with radio instruments in Tremsdorf (Germany), where the regular measurements in the range 40-800 MHz are made. The observations archive on the *http://sunkl.asu.cas.cz/~radio* is available.

Collaboration and a technical help with installation of the CCD and video registration system of white light active structures on Hvar Observatory (Croatia) was made in June - July period. Similar system also for the H$\alpha$ pictures of solar chromosphere is under development.

Time series of high-resolution white-light images of solar pores, observed at the Swedish Vacuum Solar Telescope (La Palma) were analyzed in collaboration with IAC and University of Graz. Granular motions in the vicinity of pores were studied and some relationship with bright features in umbra was found.

In the summer observing season nearly 100 two dimensional charts of the line of sight magnetic and velocity fields of 15 active regions by Ondřejov photoelectric magnetograph were measured.

Longitudinal magnetic field and Doppler velocity in sunspots were during the August observing campaign. registered on Gregory Solar Telescope at Izana (Tenerife) in collaboration with German colleagues (F. Kneer and J. Staude)

The successful observation of the giant H$\alpha$ eruptive prominence at June 3, 1998 was made with the patrol instrument as well as with the Multi-camera Flare Spectrograph, where also records of the spectral lines profile during the time evolution can be studied . Parallel observing series of this event from Observatory Valašské Meziříčí is also available. The event was successfully observed also by SOHO.

Participation in the SOHO data analysis (SUMER data) concerned the study of the chromospheric lines oscillations. Superthermal particle beams and problems of magnetic field reconnection in solar flares and eruptive prominences were intensively studied.

The proper motion of solar filaments from extensive set of H$\alpha$ patrol observations obtained at Sonnenobservatorium Kanzelhohe (Austria) were in collaboration found and analyzed.

The weekly solar-activity forecasts during whole year were prepared. The forecasts and the patrol observation images in white light and the H$\alpha$ line are archived and are available via *http://sunkl.asu.cas.cz/SolarActivity.html.*

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