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The activities of the ***Astronomical Institute of the Slovak Academy of Sciences, Stará Lesná***, in the program COSPAR devoted to the probelms of solar and stellar physics are ever more used satellite measurements, mainly in the UV, XUV and X–rays. It concerns mainly the satellites YOH–KOH, SOHO, TRACE and from previous ones NIMBUS 7, NOAA series, GOES series and the stellar IUE. By comparison of ground–based and space measurements we try to extend the satellite measurement series further to the past. Comparing the distribution of the intensity in the emission line 530.3 nm (the measurements from Lomnický ?tít), intensity in the continuum (the measurements using the Mark III coronagraph at Mauna Loa, but processed by software made by us) and in the X–rays (measurements from satellites Yoh–Koh and GOES) we came to the conclusion, that processes of ionisation, so the maximal radiation in lines as well, are concentrated in the regions of maximal gradient of the course of continual radiation and not in the regions of maximal electron density. Confirmation of this conclusion will lead to a revision of the theory of excitation of coronal ions. According to methods developed earlier we estimated from own observations and those made worldwide the coronal index of solar activity for years 1996–1998 and completed the catalouge of prominence for the same period. Analysing the all data (1939 – 1998) we realised some regularities in the course of

the cycle of solar activity in the corona. [1−5]. Coordinated ground−based observation of the solar photosphere together with observations onboard the SOHO was carried out as well [4]. Results of these studies are used in searching connections between the solar activity and the geomagnetic disturbancies. [6]. For the analysis of the symbiotic star CH Cygni were used observations from the satellite IUE (ESA, NASA), [7].

The dynamical processes in solar corona were studied [8]. The North−South symmetry in the green corona was reported [9]. The coronal shape changes during the solar cycle were considered [10] and a new database of the green−line corona brightness was compiled for the five solar cycles [11]. Other papers relevant for COSPAR are listed in [12−44].

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