

Solar Observation System in Kyunghee University

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We have developed solar observation system in the department of Astronomy & Space Science of Kyunghee University, not only to monitor solar activities and construct solar database for space weather forecasting, but also to use it as a solar education and exercise for undergraduate students.

Our solar observation systems consist of the one full disk monitoring system and the two regional observation systems for H α and Ca II K fine structures. Full disk monitoring system is made of an energy rejection filter, 70mm refractor, video CCD camera and monitor. Monitored white-light data are recorded to VHS videotape, and analog outputs of video CCD are captured as digital images by the computer with video capture card. H α observation system is made of energy rejection filter, 15cm refractor, H α filter with 1.6Å pass band width and digital camera with 3008 X 2000 pixels. Ca II K observation system is made of energy rejection filter, 12.5cm refractor, Ca II K filter and 375 X 242 CCD camera. We can observe H α and Ca II K fine structure in active regions of solar disk and solar limb, by using this system.

We have carried out intensive solar observation for a test of our system. It is found that quality of our H α and Ca II K image is as good as that of solar images provided by Space Environmental Center. In this paper, we introduce the basic characteristics of the Kyunghee Solar Observation System and results of our solar observations. Our data can be used for space weather forecasting with domestic data of RRL(Radio Research Laboratory) at Ichon and SOFT(Solar Flare Telescope) at BOAO(Bohyunsan Optical Astronomy Observatory).