

Current state and plans for the coming three years of Continuous H-alpha Imaging Network (CHAIN) project

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In recent years, studies of the environmental variation of the solar-terrestrial system have also become quite important in the field of solar physics. In our observatory, such studies have also been done in the following two complementary ways with various characteristic solar telescopes.

- One way is to perform detailed observations of solar events with high-resolution imaging and spectrum-measurement.
- The other way is the solar full-disk observations to detect many large-scale geoeffective phenomena.

With the Flare Monitoring Telescope (FMT) that was constructed in 1992 at Hida Observatory to investigate the long-term variation of solar activity and explosive events, we have performed simultaneous observation of the full-disk Sun at different wavelengths around H-alpha absorption line or in different modes. Therefore, the FMT is suitable for studying three-dimensional velocity field structures of large-scale active phenomena on the whole solar-disk that are directly connected with space weather disturbances.

As we can advance the research of space weather more efficiently with 24-hour continuous observation of solar events, we are advancing to the formation of a world-wide observational network with FMT-type telescopes distributed all over the earth called as "Continuous H-alpha Imaging Network (CHAIN)-project".

Moreover, international cooperative studies, education and popularization of space weather and solar physics are also important purposes of the CHAIN-project.

Therefore, this project is quite fit for the purpose of the ISWI program and CAWSES-II program.

Under the CHAIN-project, we installed the 1st overseas FMT in Peru in March 2010 with cooperation of Peru/IGP* & Ica Univ.

Moreover, we are planning to install the 2nd overseas FMT to Algeria in around 2012 with cooperation of Algeria/CRAAG**.

Our specific plans for the coming three years are as follows:

* 2010:

March

--- The 1st overseas FMT was installed at "Solar Station" in Ica University, Peru, and the solar observation was started with cooperation of Peru/IGP and Ica Univ.

After April

--- Kyoto University will prepare CCD cameras and the controlling PCs and narrow-band filters for the 2nd overseas FMT that will be installed in Algeria.

--- Building a new astronomical observatory and preparation of infrastructures in Algeria by CRAAG.

--- Training of Algerian staffs and students in Japan for about 1 month.

--- Cooperative data-analysis and studies with Peruvian people.

* 2011:

--- Building a hangar for the Algerian FMT at the new astronomical observatory by Kyoto Univ.

--- Making Algerian FMT in Japan by Kyoto Univ.

--- Cooperative data-analysis and studies with Peruvian people and Algerian people.

* 2012:

--- Installation of the Algerian FMT at the new astronomical observatory and start of the solar observation with cooperation by Algeria/CRAAG.

--- Cooperative data-analysis and studies with Peruvian people and Algerian people.

(*) IGP: Instituto Geofisico del Peru

(**) CRAAG: Centre de Recherche en Astronomie Astrophysique et Geophysique

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