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Japanese Contributions to the PRESTO Program

Kazuo Shiokawa* [(1)], Yoichiro Hanaoka[(2)], Toshihiko Hirooka[(3)], Masahiro Hoshino[(4)], Mamoru Ishii[(5)], Yoshio Kawatani[(6)], Kanya Kusano[(1)], Satoshi Masuda[(1)], Ayako Matsuoka[(7)], Yoshizumi Miyoshi[(1)], Yasunobu Miyoshi[(8)], Yasuhiro Murayama[(5)], Takuji Nakamura[(9)], Takahiro Obara[(10)], Yoshiharu Omura[(7)], Taro Sakao[(11)], Kaoru Sato[(12)], Yukihiro Takahashi[(13)], Yoshimasa Tanaka[(9)], Naoki Terada[(10)], Satoru Ueno[(7)], Shingo Watanabe[(6)], Mamoru Yamamoto[(7)], Shigeo Yoden[(7)], and Akimasa Yoshikawa[(3)]

(1) Nagoya University, Nagoya, Japan, e-mail: shiokawa@nagoya-u.jp; kusano@nagoya-u.jp; masuda@isee.nagoya-u.ac.jp; miyoshi@isee.nagoya-u.ac.jp;
(2) National Astoronomical Observatory of Japan, Tokyo, Japan, e-mail: yoichiro.hanaoka@nao.ac.jp
(3) Kyushu University, Fukuoka, Japan, e-mail: hirook@geo.kyushu-u.ac.jp
(4) University of Tokyo, Tokyo, Japan, e-mail: hoshino@eps.s.u-tokyo.ac.jp
(5) National Institute of Information and Communications Technology, Tokyo, Japan, e-mail: mishii@nict.go.jp; murayama@nict.go.jp
(6) Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan, e-mail: yoskawatani@jamstec.go.jp; wnabe@jamstec.go.jp
(7) Kyoto University, Kyoto, Japan, e-mail: matsuoka@kugi.kyoto-u.ac.jp; omura@rish.kyoto-u.ac.jp; ueno@kwasan.kyoto-u.ac.jp; yamamoto@rish.kyoto-u.ac.jp; yoden.shigeo.53r@st.kyoto-u.ac.jp
(8) Kyushu University, Fukuoka, Japan, e-mail: y.miyoshi.527@m.kyushu-u.ac.jp; yoshikawa.akimasa.254@m.kyushu-u.ac.jp
(9) National Institute of Polar Research, Tachikawa, Japan, e-mail: nakamura.takuji@nipr.ac.jp; ytanaka@nipr.ac.jp
(10) Tohoku University, Sendai, Japan, e-mail: obara@pparc.gp.tohoku.ac.jp; teradan@pat.gp.tohoku.ac.jp
(11) Japan Aerospace Exploration Agency, Sagamihara, Japan, e-mail: sakao.taro@isas.jaxa.jp
(12) University of Tokyo, Tokyo, Japan, e-mail: kaoru@eps.s.u-tokyo.ac.jp
(13) Hokkaido University, Sapporo, Japan, e-mail: yukihiro@ep.sci.hokudai.ac.jp

The Predictability of the variable Solar-Terrestrial coupling (PRESTO) program has been in operation by the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) since 2020 for five years until 2024. The program aims to improve the predictability of energy flow in the integrated Sun-Earth system on times scales from a few hours to centuries by promoting international collaborative efforts. The Science Council of Japan (SCJ) is a member of SCOSTEP and actively joins the PRESTO program through the SCOSTEP-STPP committee under SCJ. In this presentation we provide a brief review of the possible contribution from Japanese scientists to the PRESTO program through various ground-based, satellite, and modeling missions currently running in Japan. The **Hinode** and **Arase** satellites are providing continuous data of geospacer environment. The examples of ground-based facilities are the Assembly of Metric-band Aperture TElescope and Real-time Analysis System (**AMATERAS**) for solar radio bursts, **UHF Radio Telescope Array** of for interplanetary scintillation (IPS) measurement of solar wind, Program of the Antarctic Syowa MST/IS Radar (**PANSY**), Middle and Upper Atmosphere (**MU**) radar in Japan, Equatorial Atmosphere Radar (**EAR**) in Indonesia. Ground-based networks are e.g., Continuous H-Alpha Imaging Network (**CHAIN**) project for solar surface observation, **MAGDAS** ground magnetometer network, Optical Mesosphere-Thermosphere Imagers (**OMTIs**) and **ISEE magnetometer and ELF/VLF networks**, and Dense Regional And Worldwide INternational GNSS-TEC observation (**DRAWING-TEC**). New modeling efforts has also been done, such as Space-weather-forecast-Usable. System Anchored by Numerical Operations and Observations (**SUSANOO**), WArning System for AVIation Exposure to Solar energetic particle (**WASAVIES**), and Ground-to-topside model of Atmosphere and Ionosphere for Aeronomy (**GAIA**). Various database construction activities are also going on, e.g., Inter-university Upper atmosphere Global Observation NETwork (**IUGONET**), **Hinode and ERG Science Center**, and so on.