

Research Report

ICRR Inter-University Research Program 2020

Research Subject: A joint observation of near earth space through ~100 GeV cosmic rays using the Akeno and GRAPES-3 muon telescope

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Summary of Research Result :

The propagation of galactic cosmic rays (GCRs) through the heliosphere and especially their interaction with the interplanetary magnetic field in the inner heliosphere impacts the space weather. The aim of the research proposal is to jointly observe and analyse cosmic ray muon data using the GRAPES-3 muon telescope in Ooty, India and the Akeno muon telescope for obtaining a better understanding of the space weather impacted by both long- and short-term solar phenomena.

Due to the pandemic caused by Covid-19, the visit of Indian researchers to Japan and vice versa was not possible during the FY 2020-21. However, thanks to the ICRR Inter-University Research Program Committee for approving our request to carry over the research budget for FY 2020 to FY 2021. The Indian collaborators (S.K. Gupta and P.K. Mohanty) visited Japan in February 2020. A group meeting was held at the Akeno observatory with several Japanese collaborators where long term research plans were chalked out. A trip by the Japanese researchers to India which was scheduled in March 2020 was cancelled. Therefore, our joint research activities were affected and could not be proceeded as planned. However, remote meetings on data monitoring and analysis between the Indian and Japanese collaborators have been continued during this pandemic period.

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