

**International cloud infrastructure for space weather  
data management: the DemoGRAPE challenge.**

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Data management for E-science applications need to adopt new platforms/services aiming at improving the interactions between users and data, through sharing, flexibility and resources availability. In the space weather domain, the DemoGRAPE project, under the GRAPE initiative ([www.grape.scar.org](http://www.grape.scar.org)), focuses on merging E-science and ICT to push forward international collaborations on Irregular Ionosphere investigation with GNSS signals in Polar Regions. DemoGRAPE aims at being a pilot project to improve resources and data management in different geographic sites.

DemoGRAPE challenges the standard approach on data sharing and their centralized archiving. In fact, the innovative ICT architecture, based on an Open Source Cloud technology, will pursue a new way for managing data and resources: a smart choice is to move your applications and not your data. The proposed Cloud model follows the objective of the Standing Committee on Antarctic Data Management, with a specific attention on the resources configuration and deployment automation.

DemoGRAPE intends to give new ideas for e-infrastructures, models and scenarios on Data Management strategy in the GNSS domain. The initiative aims at creating an innovative technological tool addressed to the radio sciences community, with the deployment of an international collaborative IT infrastructure.