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Titre: Evaluation of precipitation observations from the NASA GPM Dual-Frequency radar and the development of a simulator for spaceborne and ground-based radars

Abstract:

1) Evaluation of the NASA Global Precipitation Mission Dual-Frequency Precipitation Radar for Precipitation Studies

Spaceborne-radar data from the new generation of satellites is of great use as it can provide information in places devoid of other observational platforms. It is of interest to explore the applications and potential of spaceborne radar data in the existing framework of numerical weather prediction and ground-based radar observations.
This presentation discusses the capabilities and shortcomings of existing and future satellite radar missions for providing quantitative measurements of rain, snow and their properties. It also presents the development of a spaceborne-radar forward operator suitable for use in model validation and data assimilation.

2) Ground-based radar simulator

This talk provides a detailed introduction to a ground-based radar simulator to be used as an observation operator for radar data assimilation and model validation. The focus of the presentation is on the effects of the antenna geometry and characteristics, the terrain blockage and other factors that need to be taken into account in such simulations.