



## **Sampling of precipitation by the Global Precipitation Measurement mission in mid- to high-latitudes**

**C. Kidd (1), R. Bennartz (2), and A. Mugnai (3)**

(1) The University of Birmingham, UK, (2) University of Wisconsin-Madison

USA (3) ISAC-CNR, Rome, Italy. (C.Kidd@bham.ac.uk)

Knowledge of the precipitation characteristics and regimes over the tropical region of the globe has improved greatly through the information provided by the Tropical Rainfall Measurement Mission (TRMM) launched in 1997. The success of this mission has spurred on the Global Precipitation Measurement (GPM) mission, with the main aim of providing timely measurements of precipitation over the whole globe, extending the success of TRMM from the tropics to the mid- to high-latitudes. This paper will address the sampling of precipitation at these higher latitudes in order to assess the characteristics of the precipitation systems on retrieval accuracy. Firstly, the improved sampling regime of the GPM will be examined, looking at how the nominal 3 hourly sampling cycle will impact precipitation estimates. Secondly, results from the sampling of the diurnal cycle will be presented, together with the implications for optimum satellite overpass times. Thirdly, the sampling considerations of the radar versus radiometer will be addressed to evaluate whether the narrow beam of the radar can be usefully employed for precipitation studies. The paper will finally highlight issues associated with the retrieval of precipitation intensity upon the overall sampling effectiveness.