Satellite Remote Sensing

The general goal of the project is the use of meteorological satellite data for weather forecasting and climate research. It has three focus areas: Data analysis, radiative transfer, and new satellite sensors. In data analysis, we are processing all available (historic) satellite data in order to derive trends and to derive reliable climate model benchmarks. DKRZ access is here needed mostly in order to access the model data and to archive the satellite data, but possibly also for some processing computations. In radiative transfer, we develop and apply radiative transfer codes in order to simulate satellite measurement and broad-band radiation fluxes. These calculations are computationally expensive, and DKRZ access is needed to process larger sets of atmospheric states. Finally, in new satellite sensors we develop concepts of new satellite sensors and the algorithms for their data analysis. This requires extensive radiative transfer simulations, and on top of those retrieval simulations where simulated data are processed as if they were real measurements. DKRZ access is here needed to process larger data sets. For this project the DKRZ archiving system is very important, since satellite datasets are large and tedious to replace if lost.