



## **Drop Size Distribution over the Tibetan Plateau.**

Clelia Caracciolo (1), Federico Porcu (1), and Franco Prodi (2)

(1) Universita di Ferrara, Dept. of Physics, Ferrara, Italy (porcu@fe.infn.it, +39 0532 974210), (2) ISAC-CNR, Bologna, Italy

A disdrometric campaign has been carried out over the Tibetan Plateau from November 2009 to September 2010 in the frame of CEOP-AEGIS, a Collaborative Project funded under FP7 . Three PLUDIX X-band disdrometers have been installed in Lhasa, Linzhi and Namco in the eastern part of the Plateau, to measure Drop Size Distribution (DSD) of solid and liquid precipitation with two aims: 1) to study the precipitation characteristics over the Plateau and 2) to provide data for weather ground radar calibration.

PLUDIX estimates DSD and rainfall-rate measuring the Doppler frequency shift between the radiation transmitted and received, backscattered by falling hydrometeors. Given the low air density at high elevation (ranging from 3600 to 4200 m a.s.l. in the experimental sites), the retrieval algorithms were modified, taking into account the relationship between the drop diameter and the drop speed as proposed by Beard (1976).

One year of data has been analyzed: a total of more than 80 precipitating events were collected in the three sites. The rain events (about 50 events in the three sites) were analyzed in terms of both DSD and rainfall-rate, while the rain-snow, snow and ice-crystals events (about 35 events in the three sites) were detected and analyzed in terms of Pludix power spectrum.