

# **2D VIDEO DISDROMETER: A STUDY OF DIFFERENT CLIMATIC REGIMES**

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## **ABSTRACT**

The purpose of this project is to analyze the data of a number of climate events, collected by a 2D Video Disdrometer and to learn about the operation of this equipment. This optical instrument is used for precipitation drop size distribution measurements. The data for this project was collected in Japan, Florida, Austria and New Guinea at different time periods. Three different algorithms will be implemented, using MatLab software, to fit the data collected to a gamma distribution. The limitations and advantages in terms of overall fitting to the measured distribution of the three methods will be studied. The data of the rain events will be analyzed to see how the plots of number of concentration versus mean size change with climate regime. The 2D Video Disdrometer will be deployed in Puerto Rico, a topographically complex island where tropical convection is difficult to forecast, in August 2004. The data collected in Puerto Rico with this instrument, will be used to characterize designated rainfall regions within the island, and compare these results with data from rain gauges, NEXRAD and NASA TRMM Precipitation Radar. The results of this project will be useful to recognize the limitations of NEXRAD in Puerto Rico and will offer important information for the implementation of a radar network as pursued by the CASA project.