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High-Density Drop-sonde Measurements for Hurricane Research

This proposal is submitted in response to ONRBAA14-001, Code 32- addressing tropical cyclone behavior and evolution, including the DRI to investigate improvements in tropical cyclone prediction through improved treatment of the upper level outflow region and linkages to the larger scale environment.

The goal of this work is to use HDSS-XDD drop-sonde system flying on high-altitude research aircraft to make measurements of hurricanes with much better spatial resolution, particularly to improve forecasts of intensification, and aid the DRI outflow experiments. The work includes improvements to the XDD sondes and their sensors and algorithms to improve accuracy and reliability of data recovery.