Wave Sphere

Adrián Ildefonso

Daniel Santiago

Nelián Colón

Samuel Rodríguez

Wave post-breaking dynamics is a phenomenon that is not yet well understood. This project consists of a spherical drifter of 7.5cm diameter that is used to measure variables that are essential for studying the physics of wave breaking.

It is equipped with a 3-axis accelerometer, gyroscope and magnetometer, allowing the sphere to measure its motion to 9 degrees of freedom. A GPS module, on-board flash memory for data storage and a wireless communication module for data retrieval are also integrated into the spheres. This device uses a TI MSP430 microprocessor in order to facilitate experiments conducted with this device.