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Gulf Stream Kinematics Inferred from a Satellite-Tracked Drifter

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ABSTRACT

A drifter was deployed in the Gulf Stream and tracked for 5 months by the Nimbus 6 satellite. From this experiment we have assessed the technical capability of the satellite fixing system for measuring ocean currents, the drifter trajectory as it relates to the Gulf Stream position as determined by other independent means, and the kinematics and accelerations following the Stream axis. It is shown that the trajectory agrees quite well with the other data on the location of the Gulf Stream. The velocities, accelerations and kinetic energies derived from the trajectory are compared with previous studies. A comparison is made of the kinetic energy of the Gulf Stream as inferred from the drifter with some recent calculations made from ship drift.

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