Abstract View

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Experiments with Monomolecular Films on the Surface of the Open Sea

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ABSTRACT

Experiments with monomolecular films were conducted in the axis of the Gulf Stream, east of Miami, in June 1972, to examine the feasibility of spreading and maintaining a continuous partially-polymerized thin film on the ocean's surface under various wind conditions as part of an investigation directed toward hurricane abatement through evaporation suppression. Photographic documentation of the history and structure of the artificially produced sea sticks indicates that a clearly visible slick forms almost immediately upon deployment of the film-forming material from a ship, remains continuous and homogeneous for several hours, damps waves, and reforms after penetration by a ship. Initial results from laser profilometer measurements clearly document the wave damping characteristics of the slick; specifically, damping of gravity waves as well as capillary waves occurred. Relatively quiescent atmospheric and sea conditions prevailed, unlike those in a hurricane environment.