

LIDAR MEASUREMENTS OF ON-SHORE WIND DIFFUSION

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ABSTRACT

The concept to place electric power generating stations on the oceans off the coast of the United States has instilled new efforts in research for improved understanding of the diffusion properties of the atmosphere in the ocean-air interface.

The Atomic Energy Commission has instigated a program by the Meteorology Group at Brookhaven National Laboratory to investigate the low level, on-shore wind systems that dominate many of the coastal regions. Analytical techniques and specialized instrumentation from previous studies at Brookhaven are being used in this new program. The Brookhaven Lidar system is used to measure some of the physical properties of the oil-fog plume originating from a portable smoke generator on a boat off the coast. The oil-fog plume is used as a tracer which can be observed, photographed and measured to determine the diffusive power of the atmosphere associated with the ocean-air interface and the discontinuities found in the ocean-land boundary.

This paper will describe the program rather briefly and the oil-fog scattering measurements that have been made with the Lidar system.

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