Abstracts

Analytical and Experimental Evaluation of an Optical Fiber Ocean Mass Simulator

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High-power blue-green laser systems are utilized for analyzing ocean parameters and searching for underwater objects. Testing in surveying missions using such systems is time-consuming and expensive. Therefore, an experimental ocean mass simulator is needed to test and perfect new approaches for underwater detection. This simulator must include water effects of attenuation, absorption, and scattering on the transmitted optical pulse. By examining equations and experimental data relating the backscattered signal from optical fiber and from water, correlations are found which qualify the fiber as an efficient ocean mass simulator.

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