Abstracts

Microwave-Modulated Transmitter Design for Hybrid LIDAR-RADAR

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The application of well-established, coherent RADAR technology to aerial light detecting and ranging (LIDAR) systems has reduced incoherent backscatter clutter by 17 dB in laboratory experiments and computer simulations. The full-scale experimental realization of this hybrid LIDAR-RADAR system is hampered by the unavailability of a stable modulation source capable of providing high peak powers to overcome the large dynamic range required for the LIDAR backscatter measurement. Two methods being investigated for the microwave-modulation of a transmitted optical pulse to be utilized in the actual LIDAR environment are detailed.

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