

CHEMICAL CONTAMINATION REMOTE SENSING

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ABSTRACT

A ground mobile laser test bed system was assembled to assess the feasibility of detection of various types of chemical contamination using Differential Scattering (DISC) and Differential Absorption (DIAL) LIDAR techniques. Field experiments with the test bed system using chemical simulants were performed. Topographic reflection and range resolved DIAL detection of vapors as well as DISC detection of aerosols and surface contamination were achieved. Review of detection principles, design of the test bed system, and results of the experiments are discussed.