COMPUTER MODELING OF LASER DOPPLER VELOCIMETER (LDV) SYSTEMS AND THEIR PERFORMANCE IN FOGS AND COMPARISON WITH EXPERIMENTAL RESULTS

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ABSTRACT

Computer modeling of the Laser Doppler Velocimeter (LDV) Systems has been carried out. The computer model has been applied to predict the CO_2-LDV system performance in artificial and natural fogs and in clouds. Experiments with NASA Marshall's CW CO_2-LDV have been performed in controlled artificial fogs at the Fog Chamber in Richmond, California. This paper reports on the comparison of the theoretical and the experimental results of the performance of the CO_2-LDV systems in fogs. The results of measurement of size distributions of fog droplets and that of computation of their attenuation-scattering properties from the Lorenz-Mie theory are also reported here.