

PULSE LASER RADIATION TRANSFER: MONTE CARLO SIMULATION AND COMPARISON WITH EXPERIMENT

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ABSTRACT. A three-dimensional Monte Carlo simulation of transient radiative transfer is performed for short pulse laser transport in scattering and absorbing medium. Experimental results of a 60 ps pulse laser transmission in scattering medium are presented and compared with simulation. Good agreement between the Monte Carlo simulation and experimental measurement is found. The refractive index of the scattering particles is found to influence strongly the prediction of transmitted pulse shape. Scaled isotropic scattering modeling is shown to be not sufficient in transient radiative transfer.