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Dynamic properties of silica and Lennard-Jones system subjected to simulated laser irradiation[1] LIANQING ZHENG, Department of Chemistry, University of Missouri, Columbia, SHENG-NIAN LUO, Los Alamos National Laboratory — We investigate the dynamic properties of the silica and Lennard-Jones systems subjected to simulated laser irradiation using classical molecular dynamics simulations. Laser energy deposition is approximated by converting photon energy to kinetic energy of the system. Two paradigm systems, silica and the Lennard-Jones system, are examined for understanding structure change, metastable behavior in phase transition, and mechanical properties under ultrafast dynamic loading, and the effects of defects, initial stress–temperature conditions and the loading characteristics of the lasers.

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