

Abstract Submitted
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A liquid regime equation of state for silicon dioxide TRAVIS SJOSTROM, SCOTT CROCKETT, Los Alamos Natl Lab — A new SESAME liquid phase silicon dioxide equation of state (EOS) has been developed utilizing the best experimental data and theoretical calculations. The EOS inputs include recent alpha-quartz shock Hugoniot results from the Sandia Z machine experiments, as well as quantum molecular dynamics simulations. An immediate and critical application of the new EOS lies in analysis of shock experiments where in recent years alpha-quartz has been used extensively as an impedance match standard at significant (above ~ 100 Gpa) pressures to measure shock velocities.

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