Hugoniot Measurements of Silicon Shock Compressed to 25 Mbar
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Livermore National Laboratory — We present results of laser-driven shock experi-
ments that compressed silicon samples to 25 Mbar. Impedance matching to a quartz
reference provided Hugoniot data. Since silicon is opaque, a quartz witness was
placed adjacent to the silicon samples; this afforded the use of the unsteady wave
correction to increase the precision of the transit-time measurements of shock ve-
locity. Results are compared with both SESAME tables and quantum molecular
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