

Abstract Submitted
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Index of Refraction of Shock Loaded Soda-Lime Glass¹ SCOTT ALEXANDER, Sandia National Laboratories — Soda-lime glass (SLG) is a potential low-cost VISAR window for use at moderate shock pressures (up to approximately 25 GPa) where the material remains transparent. In order for SLG to be practical as a VISAR window, the correction factor, which describes the frequency correction related to the strain dependence of the refractive index, and hence the index of refraction itself, must be characterized as a function of pressure. Characterization data are reported in this paper and compared to previous results. The present data show good agreement with those of Dandekar [*J. App. Physics*, **84**, 6614 (1998)] and separate study results by Gibbons and Ahrens [*J. Geophys. Res.*, **76**, 5489 (1971)] up to 7 GPa. However, at stresses over 7 GPa, marked discrepancies are evident between the present data and that of Gibbons and Ahrens. Differences in test methods may explain these discrepancies.

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