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Modeling and characterization of PMMA for high strain-rate and finite deformations ERIC HERBOLD, Georgia Institute of Technology, JENNIFER JORDAN, MICHAEL NIXON, Air Force Research Laboratory, NARESH THADHANI, Georgia Institute of Technology — The complex response of glassy polymers to high strain-rate dynamic loading necessitates accurate modeling of these events for comparison with experiments. The strain-rate and temperature sensitivity as well as the strain softening behavior are significant and must be considered for large deformations. Several constitutive relationships that account for these attributes will be discussed in terms of their applicability to modeling PMMA in gap tests. Validation experiments involving Comp B detonated in contact with 4 in. of PMMA will be compared with dynamic models of for glassy polymers.

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