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High Strain Rate Mechanical Properties of Glassy Polymers JENNIFER JORDAN, Air Force Research Laboratory, CLIVE SIVIOUR, Oxford University, BRIAN WOODWORTH, Air Force Research Laboratory — Since the early 1990s, a range of experimental data has been generated describing the response of glassy polymers to high strain rate loading *in compression*. More recently, research programs that study the combined effects of temperature and strain rate have made significant steps in providing better understanding of the physics behind the observed response, and also in modeling this response. However, limited data are available in tension, and even more limited are data describing both the compressive and tensile response of the same polymer. This paper investigates the compressive and tensile response of four glassy polymers across a range of strain rates from quasi-static to dynamic. The pressure dependant yield in these materials will be discussed through comparison of the tensile and compressive yield stresses.

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