

Abstract Submitted
for the SHOCK05 Meeting of
The American Physical Society

Piezoelectric Polymer Shock Gauges FRANÇOIS BAUER, ISL —

The science and technology of piezoelectric materials has long been dominated by the availability of specific materials with particular properties. Piezoelectric PVDF (Poly(vinylidene fluoride)) polymer and copolymers of PVDF with trifluoroethylene have shown that they have the potential for new shock-wave sensors. Since 1981 and until 1995, the piezoelectric response of PVDF has been studied in a cooperative effort with François Bauer of ISL, France, R.A. Graham of Sandia National Laboratories and L.M. Lee of the Ktech Corporation of Albuquerque. Among the known piezoelectric polymers, the PVDF plays an important role in measuring mechanical and physical state of matter under shock loading. The present paper presents the history of the development of the PVDF shock gauge. After 24 years of research in this area, main relevant results and data obtained are summarized as well as some of original applications of the PVDF gauges.

François Bauer
ISL

Date submitted: 06 Apr 2005

Electronic form version 1.4