Abstract Submitted
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Vibrational Spectroscopy of Polymers at High Pressures[1] ERIK EMMONS, K.C. CHIARTKUNCHAND, RICHARD KRAUS, JEFFREY THOMPSON, AARON COVINGTON, Physics Department and Nevada Terawatt Facility, University of Nevada, Reno — Vibrational spectroscopy of polymers at high-pressures (>1 GPa) is an interesting but relatively unexplored field. Early studies by Bridgman in the 1940s revealed a crystalline phase transition in only one polymeric material, poly (tetrafluoroethylene), at high pressures. Since that time, however, there have been relatively few studies of high-pressure polymorphism in polymers, with the exception of experiments on polyethylene. Hence, there is still not a clear picture of how common structural phase transitions are at high pressure in polymeric materials, in contrast to the situation for small organic molecules. The results of high-pressure vibrational spectroscopic studies of semi-crystalline polymeric materials such as α- and β-poly (vinylidene fluoride) will be presented.

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