

Abstract Submitted
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Low Pressure Equation of State for Polymers BRAD CLEMENTS,

Los Alamos National Laboratory — Low-pressure equations of state (EOS) are constructed for two representative polymers: polycarbonate and polytetrafluoroethylene. Our method, which is based on well-known EOS procedures, relies on having heat capacity data at zero pressure, specific volume data as a function of temperature and pressure, and phase diagram information. The resulting equations of state incorporate the glass transition observed in polycarbonate and the solid-solid phase transitions observed in polytetrafluoroethylene. We describe how this information can be used in modeling the dynamic response of polymers for which we provide examples.

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