

Abstract Submitted
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A Multi-Phase Equation of State for Bismuth GEOFFREY COX,
AWE — This paper considers a multi-phase equation of state for bismuth. At a phase transition there are changes in volume, energy, and properties of a material that should be included in an accurate model. Modifications are made to a previously published EoS [1] with the aim of extending the pressure and temperature range of the EoS and producing a reasonable estimate of shock melt. This new EoS contains five solid phases and a liquid phase. Comparisons are shown between experimental data and the modified and unmodified EoS.

[1] J. N. Johnson, D. B. Hayes, and J. R. Asay, *J. Phys. Chem. Solids*, 35, 501-515 (1974)

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