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A Relatively Simple Analytical Equation of State for Liquid Metals JOHN MAW, AWE, Aldermaston — Over the past 50 years considerable research has been carried out in attempts to model the behaviour of liquid metals. Many methods have been proposed for estimating the critical point properties and a number of equations of state (EOS) have been developed, usually in tabular form, to describe the liquid vapour transition in a range of metals. In this paper a previously described analytical EOS form has been extended to provide a simple treatment of the liquid/vapour phases of metals. This has the advantage over tabular forms that it can be easily modified to assess the sensitivity of simulations to uncertainties in the EOS or to take into account new experimental data. The steps involved in determining the EOS parameters are described and comparisons are made with experimental data and other EOS models for a number of metals.

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