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**Electronic Conduction of Tin Under High Pressure from A phenomenological Equation of State.** SHLOMI PISTINNER, Prop. Div. Soreq NRS Yavne Israel — Phase transition under shock loading, and unloading are indirectly inferred from an abrupt change in the speed of sound . To estimate this change we use the Tin thermodynamic-phenomenological equation of state, obtained by Mabire and Heril (SCCM 2000). Mabire and Heril have demonstrated the ability of this equation of state to reproduce VISAR profiles obtained in impact experiments. The parameters of this equation of state are worked out in the frame work of Debye theory and converted to parameters usable in the Bloch-Grueisen |DC resistivity formula. This quantity is then used in Drude AC resistivity model to infer a wavelength dependent emissivity. The emissivity so inferred can be used to reduce uncertainties in temperature which is inferred from pirometric measurements at shocked Tin unloading. This can be done in a manner consistent with the probed equation of state. In principle the prediction of the exercise carried out below are verifiable via independent measurements of an angle dependent emissivity via techniques such as ellipsometry.

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