

Abstract Submitted  
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**Comparison of the existing internally consistent pressure scales at high pressures and high temperatures**<sup>1</sup> HYUNCHAE CYNN, B.J. BAER, LLNL, Livermore, CA, S.G. MACLEOD, AWE, Aldermaston, UK, W.J. EVANS, M.J. LIPP, J.P. KLEPEIS, ZS. JENEI, J.Y. CHEN, K. CATALLI, LLNL, Livermore, CA, D. POPOV, C.Y. PARK, HP-CAT, APS — There have been several efforts to determine internally consistent pressure scales for static diamond anvil high pressure study. We decide to extend the choice of pressure scales to include W and Cu. A recent study of Cu claims that electronic theory can constrain cold curve and possibly room temperature isotherm (Greeff et al., 2006, JPCS). We will present our comparison of 6 different pressure scales in regards with the suggested Cu EOS. We have measured angle-dispersive x-ray diffraction of Au, Pt, W, Cu, Ne, and NaCl to directly compare with the current existing EOS. We will also discuss discrepancies in the precise determination of pressure of phase transformations.

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