

Abstract Submitted
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X-ray diffraction study of elemental thulium to 86 GPa¹ MICHAEL PRAVICA, EDWARD ROMANO, ZACHARY QUINE, University of Nevada, Las Vegas, WALTER PRAVICA, Wilbur Wright College — We have studied the structures and equation of state of elemental thulium up to 86 GPa in a diamond anvil cell using angular-dispersive x-ray powder diffraction methods at the Advanced Photon Source. This is part of a study of phase transitions in the lanthanide-series metals using cyclohexane as a quasi-hydrostatic medium. We present evidence of a series of phase transitions that appear to follow the anticipated hcp → Sm-type → dhcp → distorted fcc sequence of transitions and show the equation of state derived from the x-ray fit data.

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