

Abstract Submitted  
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**High Pressure Studies on Group IV Transition Metals Based Metallic Glasses**<sup>1</sup> ANDREW STEMSHORN, YOGESH VOHRA, University of Alabama at Birmingham — The compression behavior of Group IV transition metals based metallic glasses Ti<sub>37</sub>Zr<sub>29</sub>Cu<sub>15.5</sub>Ni<sub>14.5</sub>Be<sub>4</sub> and Zr<sub>57</sub>Cu<sub>15.4</sub>Ni<sub>12.6</sub>Al<sub>10</sub>Nb<sub>5</sub> are investigated at room temperature up to 74 GPa in a diamond anvil cell using in-situ energy and angular dispersive x-ray diffraction with a synchrotron radiation source. The x-ray diffraction studies did not reveal any pressure induced crystallization phenomenon in metallic glasses to a volume compression of 35 percent. In Zr-based metallic glass, a nanostructured tetragonal Zr<sub>2</sub>Ni phase was observed and also found to be stable to the highest pressure. The measured equation of state (Pressure-Volume curve) of Group IV transition metals based metallic glasses is compared to the known high phases of transition metals.

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