Abstract Submitted
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Time resolved x-ray diffraction: dynamics of pressure induced structural phase transition in bismuth.[1] ZSOLT JENEI, WILLIAM J. EVANS, Lawrence Livermore Natl Lab, ZUZANA KONOPKOVA, European XFEL, HANNS-PETER LIERMANN, Detches Electronen-Synchrotron — High brightness synchrotrons and fast high performance detectors allow direct measurement of structural phase transition in dynamic regime. We have used dynamic diamond anvil cell at 3rd generation synchrotron facilities to study pressure induced phase transitions from slow to fast compression rates. Dynamic pressure changes can dramatically influence the microstructure of metals and phase boundaries in the pressure-temperature space. We explore the rich phase diagram of bismuth and discuss the effects of compression rate on solid-to-solid phase transition pressures in bismuth.

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