MS27.O03

Non-crystalline samples under high-pressure conditions

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Taking advantage of synchrotron x-ray diffraction, PDF and tomographic techniques, the P-V curve of non-crystalline samples were studied under high-pressure conditions. Two element and several metallic glass cases were performed. The procedure of crystallization of amorphous Se upon compression at room temperature, which was studied in diamond anvil cell combined synchrotron x-ray PDF and 3D imaging techniques; the melting and solidification procedure of Ga in large volume press at room and high temperature; and complicated crystallization, re-rystalization, melting behavior of Ce-based metallic glass, will be presented to show the capability of revealing structure and dynamics behaviors in P-V-T-t domains using these advanced techniques.

Keywords: Tomography, PDF, Pressure