Abstract Submitted
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Structural transitions in NaBH4 under pressure[1] RAVHI KUMAR, ANDREW CORNELIUS, University of Nevada, Las Vegas — The structure of the technologically important hydrogen storage compound $NaBH_4$ has been investigated under pressures up to 30 GPa by *in situ* angle dispersive high pressure x-ray diffraction using synchrotron x-rays and a diamond anvil cell. Our experimental results show pressure-induced structural transitions of α-$NaBH_4$ (cubic – $Fm\bar{3}m$) to β – $NaBH_4$ (tetragonal – $P42_1c$) at 6.3 GPa and further to orthorhombic phase ($Pnma$) at 8.9 GPa. The high pressure orthorhombic phase is found to be stable up to 30 GPa. The cubic phase is completely recovered on releasing the pressure to the ambient.

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