

Pressure induced structural transition in metal hydrides

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The structural transition of YH_3 was investigated by x-ray diffraction measurements at high pressure and room temperature using synchrotron radiation lights at SPring-8. The hexagonal metal lattice transformed gradually to the fcc lattice through an intermediate phase appearing for a wide pressure range of 11-22 GPa. The reflection patterns of the intermediate phase were not reproduced simply by summing up those of the hexagonal and fcc structures and likely interpreted in terms of the long period stacking sequence of the Y metal layers.