The Local Structure of Molten $CdBr_2$

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The local structure of molten $CdBr_2$ was investigated by high temperature X-ray absorption fine structure (XAFS) analysis. The quartz cell designed for hygroscopic high temperature molten salts was successfully used in the measurement. At room temperature the nearest neighbor Cd^{2+}-Br^{-} distance decreased from 2.71 Å in solid state to 2.60 Å in the molten state. The coordination number decreased from 6 to 4 on melting. The obtained structural parameters showed that $(CdBr_4)^{2-}$ is predominant in molten $CdBr_2$.

Key words: XAFS; Molten Salt; Structure; Synchrotron Radiation.