

Structural Study of the Disordered $RECd_6$ Quasicrystal Approximants ($RE = Tb, Ho, Er, Tm$ and Lu)

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Dedicated to Professor Wolfgang Jeitschko on the occasion of his 70th birthday

The crystal structures of approximants $RECd_6$ ($RE = Tb, Ho, Er, Tm$ and Lu) have been refined from single crystal X-ray diffraction data. This work is a continuation of a previous study of MCd_6 approximants [1] in which the different types of disorder of the central Cd_4 tetrahedra located in the dodecahedral cavities were examined. The structures of the title compounds are all similar to $GdCd_6$ and disorder was observed in all these compounds. There is a correlation between the anisotropic displacement parameter and the unit cell dimension.

Key words: Quasicrystal Approximant, Rare Earth Cadmide