

Structural and magnetic studies of a new intermetallic Er₂Cu₁₁Ga₆ in the Er-Cu-Ga ternary system

Besma BELGACEM ⁽¹⁾, Mathieu PASTUREL ⁽²⁾, Henri NOEL ⁽²⁾, Rached BEN HASSEN ⁽¹⁾

1: Laboratoire de Chimie des Matériaux, ISSBAT. Université de Tunis Elmanar. 9, Avenue Dr. Zoheir Safi 1006-Tunis, Tunisia

2: Sciences Chimiques de Rennes, Chimie du Solide et Matériaux, UMR CNRS 6226, Université de Rennes 1, Campus de Beaulieu, 35042 Rennes, France.

ABSTRACT

A polycrystalline sample of Er₂Cu₁₁Ga₆ was prepared by arc-melting and characterized by EDS technique. X-ray powder diffraction analysis indicated that this compound have the rhombohedral Th₂Zn₁₇[1] structure (*R*-3*m*) and unit-cell parameters *a*= 8.6626 (1) and *c*= 12.6826 (2). Rietveld refinement reveals that the Ga atoms occupy all the 6*c*, 9*d*, 18*f*, and 18*h* sites and the erbium atoms preferentially occupy 6*c* site.

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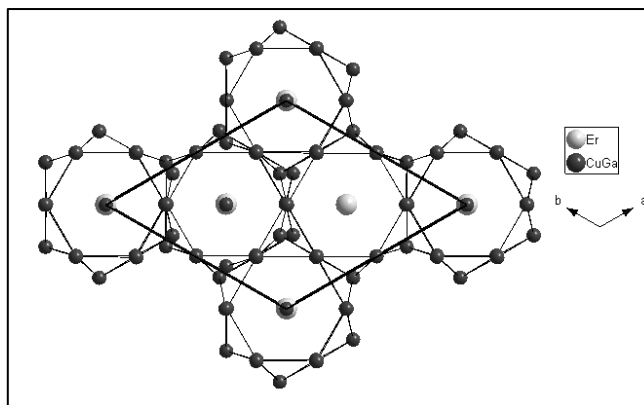


figure 1: Plane projection of the tunnels in Er₂Cu_{10.94}Ga_{6.06} structure.