

COBALT MONOSILICIDE SINGLE CRYSTAL GROWTH USING THE CZOCHRALSKI METHOD

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Cobalt monosilicide (CoSi) is a semimetallic compound [1] that crystallises in a noncentrosymmetric cubic structure B20, described by the space group $P2_13$ [2].

Due to its unique topological and electronic properties, CoSi is currently the subject of extensive research in the field of chiral topological semimetals [3,4].

In the experimental procedure, pellets of CoSi were prepared by arc melting, using stoichiometric amounts of silicon and cobalt lumps as the starting materials. The annealed pellets of CoSi were crushed into medium-sized pieces and then placed inside a TriArc furnace. The crystal was grown in an argon atmosphere, and a piece of previously grown CoSi crystal was used as a seed. The obtained crystal was annealed, cut, and characterized using X-ray Laue diffraction and chemical analysis by EDX. The results showed that the CoSi monocystal had been successfully grown.

Keywords: Czochralski, CoSi crystal;

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