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Formation of an extended $CoSi_2$ thin nanohexagons array coherently buried in silicon single crystal

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Article history

A Co-doped silica film was deposited on the surface of a Si(100) wafer and isothermally annealed at 750 °C to form spherical Co nanoparticles embedded in the silica film and a few atomic layer thick $CoSi_2$

nanoplatelets were characterized. The experimental results indicate that the nanoplatelets exhibit hexagonal shape and a uniform thickness. The $CoSi_2$ nanostructures lattice is coherent with the Si lattice, and each of them is parallel to one of the four planes belonging to the {111} crystallographic form of the host lattice.

Topics

Electrical conductivity, LSI circuits, Semiconductor device fabrication, Crystal lattices, Thin films, Transmission electron microscopy, Nanoplatelet, Nanoparticle, Nanotechnology, Interface properties

Supplementary data

Supplementary Material- zip file