

RESEARCH ARTICLE |

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Formation of an extended CoSi₂ thin nano hexagons array coherently buried in silicon single crystal

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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 CoSi₂ nanolayers within the wafer

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nanoplatelets were characterized. The experimental results indicate that the nanoplatelets exhibit hexagonal shape and a uniform thickness. The CoSi₂ 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](#)

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Supplementary data

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