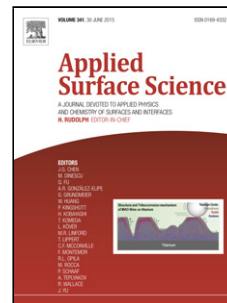


## Accepted Manuscript

Title: Structural and Optical Properties of Silicon Nanocrystals Embedded in Silicon Carbide: Comparison of Single Layers and Multilayer Structures

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## Highlights:

- Si nanocrystal size control in a SiC matrix achieved by Si content variation.
- We proved sublayer intermixing in  $\text{Si}_x\text{C}_{1-x}/\text{SiC}$  multilayer during annealing.
- Excess Si in SiC hinders SiC crystallisation.
- We performed a comparison between  $\text{Si}_x\text{C}_{1-x}/\text{SiC}$  multilayers and  $\text{Si}_x\text{C}_{1-x}$  single layers.
- Si nanocrystal size correlates with the  $E_{04}$  bandgap.

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