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## Investigation of the migration behaviour of Strontium ion implanted in Silicon Carbide

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**Abstract content &nbsp; (Max 300 words)<a href="http://events.saip.org.za/getFile.py/a target="\_blank">Formatting & Special chars</a>**

The migration behaviour of strontium through single and poly crystalline SiC (6H-SiC and CVD-SiC) wafers was investigated using Rutherford backscattering spectroscopy (RBS), scanning electron microscopy (SEM) and Raman spectroscopy. A fluence of  $1.153 \times 10^{16} \text{ cm}^{-2}$  of Sr ion was implanted into 6H-SiC wafer with an energy of 360 keV at room temperatures (RT = 23 °C). The change in average depth of the implantation Sr ion profile was determined by isochronal and isothermal annealing studies at temperatures up to 1400 °C. The strong influence of radiation damage on diffusion after room temperature implantations was observed in all cases during the initial annealing stages at 1000 °C. Recrystallization of the highly disordered crystal at this annealing temperature is taking place. Further diffusion took place as the annealing temperature was increased from 1000 to 1400 °C. Annealing of the radiation damage and structural reconstruction was observed to be taking place at these annealing temperatures.

**Apply to be considered for a student &nbsp; award (Yes / No)?**

No

**Level for award (Hons, MSc, &nbsp; PhD)?**

PhD

**Main supervisor (name and email) and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

No

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