

Silicon carbide nanowires: synthesis and cathodoluminescence

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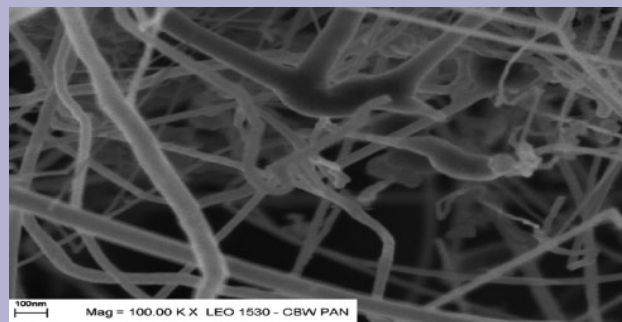
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Silicon carbide nanowires have been synthesized via a combustion synthesis route. Structural studies showed that obtained SiC nanowires belong dominantly to 3C polytype with zinc-blend structure. Cathodoluminescence spectra from these nanostructures within the temperature range of 77...300 K, show obvious differences with respect to the bulk materials. The exciton band of the bulk 3C-SiC is significantly damped and the prevailing line is found to be at 1.99 eV (77 K), proving the key role of defect centers in optical properties of the investigated nanomaterial.



Purified SiC nanowires.