



Contribution ID: 69

Type: Poster Presentation

## Blue-yellow luminescence of Eu-doped CaSnO<sub>3</sub> nanopowders synthesized by the sol-gel autocombustion process

Tuesday, 5 July 2016 16:10 (1h 50m)

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

Undoped and Eu-doped CaSnO<sub>3</sub> nanopowders were prepared by a facile sol-gel autocombustion method calcined at 800 °C for 1h. The crystal structure of the nanopowders is identified by the X-ray diffraction (XRD) technique, and it is found that all samples showed pure orthorhombic CaSnO<sub>3</sub> structure. Photoluminescence measurements indicated that the undoped sample exhibits a broad blue emission at about 420–440 nm, which can be attributed to the recombination of self-trapped excitons. Additional sharp emission lines at 465, 592 nm were obtained in the Eu-doped CaSnO<sub>3</sub> sample and these emission lines were assigned to the f-f transition of 5D<sub>1</sub>–5D<sub>0</sub>, 5D<sub>0</sub>–7F<sub>1</sub> in Eu<sup>3+</sup> ions. The mixture of this blue and yellow luminescence gives white color in Eu-doped CaSnO<sub>3</sub> sample under UV excitation.

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

No

**Level for award (Hons, MSc, PhD, N/A)?**

Postdoc

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

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No

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**Session Classification:** Poster Session (1)

**Track Classification:** Track A - Division for Physics of Condensed Matter and Materials