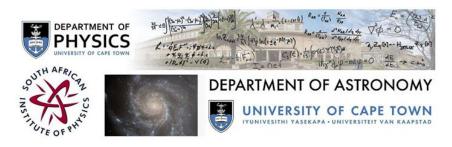
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Blue-yellow luminescence of Eu-doped CaSnO3 nanopowders synthesized by the sol-gel autocombustion process

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Abstract content
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Undoped and Eu-doped CaSnO3 nanopowders were prepared by a facile sol-gel autocombustion method calcined at 800 oC for 1h. The crystal structure of the nanopowders is identified by the X-ray diffreaction (XRD) technique, and it is found that all samples showed pure orthorhombic CaSnO3 structure. Photoluminsence 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 CaSnO3 sample and these emission lines were assigned to the f-f transition of 5D1⊠5D0, 5D0⊠7F1 in Eu3+ ions. The mixture of this blue and yellow luminescence gives white color in Eu-doped CaSnO3 sample under UV excitation.

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F.B. Dejene,DejeneBF@ufs.ac.za, UFS

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Primary author: Dr YIHUNIE, Moges Tsega (University of the Free State (qwaqwa campus))

Co-author: Prof. DEJENE, F. Birhanu (UFS)

Presenters: Prof. DEJENE, F. Birhanu (UFS); Dr YIHUNIE, Moges Tsega (University of the Free State (qwaqwa campus))

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