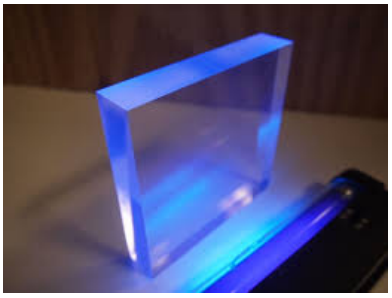
Stability of Fluoride compounds under electron beam irradiation

Rajaa Abubaker Abuelgassim Abdallah

Rajaa obtained her BSc (hons) at the International University of Africa in 2016, Khartoum, SUDAN. She is currently a MSc student at the Department of Physics, University of the Free State, Bloemfontein, RSA.

Fluoride compounds i.e. SrF_2, CaF_2 have been used in various optical applications such as scintillators, dosimetry, and long afterglow sign devices. Generally, fluoride compounds are chemically stable in adverse Conditions and they give a good luminescence emission. However, they are proven to be unstable under some other condition i.e. e-beam irradiation which limit their applications. This study aims to improving the stability of the fluoride compounds under electron beam irradiation by depositing an ultra-thin protective layer on the fluoride compounds film. And hence their applications range may be increased.



Some of the current and possible applications of fluoride materials.