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Characterisation and calibration of SSNTD for studying rare events in cosmic rays

Abstract content

Solid state nuclear track detectors (SSNTD) are useful for studying heavy ion abundances in cosmic rays at mountain altitudes because of their light weight and certain Z/Beta detection thresholds which automatically eliminates low Z background. In our work we are using a particular brand of overhead projector (OHP) films which has a very high detection threshold of Z/Beta $>$ 140 and so are particularly suitable for studying rare events in cosmic rays viz. Strangelet detection. The detector material is identified to be polyethylene terepthalate (PET). A sensitive charge response characteristic is a prerequisite for any detector. Previously we have studied the charge response of the PET detector by impinging on it 238U - ion and 16 O- ion beams of known energies from particle accelerators. Results of further studies along this line using S and Ni – ions and a much improved calibration curve will be presented.

If this papers is presented for a collaboration, please specify the collaboration

Summary

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