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Measurement of ^{238}U fission cross sections using quasi-monoenergetic neutrons with energies from 35 MeV to 100 MeV.

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Abstract content (Max 300 words) **Formatting** **Special chars**

The fast neutron beamline at iThemba LABS is presently proposed to be developed into an accredited facility for fast neutron metrology. Cross sections of neutron-induced reactions on ^{238}U are very important as reference standards for fast neutron metrology. The cross section of the $^{238}\text{U}(n,f)$ reaction has been measured for quasi-monoenergetic neutron energies in the range from 35 MeV to 100 MeV using a fission chamber of natural uranium composition. Proton recoil telescopes, composed of thin silicon detectors coupled to a sodium iodide scintillation detectors were utilised for the determination of the incident neutron fluence using the well-known cross sections for n-p elastic scattering. Emphasis during the analyses was placed on data reduction and background subtraction to reduce measurement uncertainty. Presented are the measurements and the calculation method to determine the cross section values.

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

NO

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

N/A

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

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Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

NO

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YES

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