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Validation of the performance of Geant4 in the simulation of neutron induced reactions relevant to reactor studies.

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Abstract content
   (Max 300 words)
Formatting &
Special chars

Geant4 is a Monte Carlo simulation toolkit that is used for the simulation of particles through matter. It was developed at CERN for high energy physics. The Evaluated Nuclear Data File, ENDF/B-VII database is included in the simulation toolkit, making it feasible to use the Geant4 toolkit for low energy neutron-physics simulations. The ENDF/B-VII database is a database that stores evaluated nuclear reaction data files from the major evaluated libraries. In this presentation Geant4 was used to perform simple single event neutron scattering simulations on materials that are typical for a nuclear reactor. Specifically, the materials used are found in the SAFARI1 reactor that at Necsa, Pelindaba. These include Aluminium, Carbon, Beryllium, Uranium and Water. This was done in order to validate the Geant4 implementation of primary processes relevant to reactor studies within the ENDF/B-VII database of reaction cross sections.

Apply to be
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Yes

Level for award
 (Hons, MSc,
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MSc

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

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Would you like to <br> submit a short paper <br> for the Conference
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Yes

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