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Assessment of Beryllium Depletion Modeling on SAFARI-1 Reactor Core Parameters in aid of OSCAR-4 Validation

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Abstract content
 (Max 300 words)

This work investigates the nature and extent to which the build-up of lithium-6 and helium-3 isotopes affects the properties of beryllium reflectors in the nuclear reactor environment. The fundamental principles involved with regards to reactor simulation, and how these principles are applied, are discussed in detail. The work involves the assessment of a suggested method for simulating the impact of beryllium depletion on reactor core parameters using the OSCAR-4 code system. The study plays an integral part in validating OSCAR-4 for application to the SAFARI-1 research reactor at Pelindaba, South Africa. Assessment is done using extensive comparisons between simulated and experimental data.

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MSc

Main supervisor (name and email)
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