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High-fidelity modelling of the Egyptian 2nd Testing Research Reactor (ETRR-2)

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This study forms part of the on-going IAEA Coordinated Research Project (CRP) which primarily focuses on benchmarking computational tools against experimental data for research reactors. It is important to benchmark these tools against experimental data as part of evaluating their capabilities in simulating physical phenomena which take place during reactor operation. Necsa has recently developed a new high-fidelity framework for performing nuclear reactor core calculations, which integrates both stochastic and deterministic modelling methods in a consistent way. In this work, this new calculational system is applied to the ETRR-2 benchmark problem in aid of code validation. In particular, a series of control rod calibration experiments are modelled as initial qualification of the model, where-after a series of cycle depletion analysis are conducted to validate the burn-up capability of the package.

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

No

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

N/A

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

Yes

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