

Validation of OpenMC for Gen IV Graphite-Moderated Reactors: Insights from Benchmarking the UFTR

Tuesday, 4 November 2025 13:50 (15 minutes)

This two-page abstract presents a benchmarking study of the OpenMC Monte Carlo code using the University of Florida Training Reactor (UFTR) as a graphite-moderated test case. It outlines the development of a high-fidelity OpenMC model, the simulation setup, and comparison with experimental reactivity data. The abstract demonstrates OpenMC's accuracy in modeling graphite-moderated systems and discusses its potential for Generation IV reactor analysis.

Technical Track

Reactor Physics

Primary authors: Mr ALHARBI, Abdullah (Department of Materials Science & Engineering, Nuclear Engineering Program, Herbert Wertheim College of Engineering, University of Florida); Dr WATSON, Justin (Department of Materials Science & Engineering, Nuclear Engineering Program, Herbert Wertheim College of Engineering, University of Florida)

Session Classification: Reactor Physics