

## **SCALE/TRITON Lattice Physics and Depletion**

SCALE supports a wide range of reactor physics analysis capabilities. SCALE reactor physics calculations couple neutron transport calculations with ORIGEN to simulate the time-dependent transmutation of various materials of interest. TRITON is SCALE's modular reactor physics sequence for a wide variety of system types. Attendees of this course will learn how to use TRITON for depletion analysis. The TRITON training material is centered around using the NEWT 2-D transport module for 2-D depletion analysis and briefly touches on 3-D depletion analysis. The course will instruct users on the use of KENO in place of NEWT for 3-D Monte Carlo-based depletion; however, KENO is not covered in depth within this course. Additional applications of TRITON are incorporated into the training, including the creation of ORIGEN libraries for rapid spent fuel characterization calculations, defining appropriate unit cell calculations of various reactor types for cross section processing, performing restart calculations, and performing uncertainty analysis of reactor physics calculations using Sampler.

No prior knowledge of SCALE is required.