In this workshop, the capabilities of the ITS and SCEPTRE codes will be presented. Within the allotted time for each code, demonstrations may be performed.

**Integrated TIGER Series (ITS)**

ITS is a powerful software package permitting Monte Carlo solution of linear time-binned coupled electron/photon radiation transport problems, with or without the presence of macroscopic electric and magnetic fields of arbitrary spatial dependence. The package contains programs to perform 1D, 2D, and 3D simulations using either continuous energy or multi-group cross sections. Forward and adjoint modes of calculation are available. Geometry can be described using combinatorial geometry, CAD (ACIS) geometry, faceted geometry, or all three.

**Sandia’s Computational Engine for Particle Transport for Radiation Effects (SCEPTRE)**

The SCEPTRE code is a deterministic code that simulates coupled electron-photon transport. It utilizes unstructured finite elements in both 2D and 3D. The mission of the SCEPTRE code is simulation of the radiation environment (x-ray and electron) internal to systems as the first step in the simulation of the associated electrical response of components for design and qualification. SCEPTRE is used to predict charge and energy distributions in components at the resolution and precision required for electro-magnetics analysis.

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http://rpsd2018.ans.org/
Session descriptions

The workshop will describe both ITS and SCEPTRE capabilities as they stand now. Future development directions may also be discussed. While the allotted time may not permit attendees to have hands-on experience with these codes, the presenters will perform demonstrations of simple problems and the resulting code output. The demonstrations will present geometry and output visualizations using publicly available and home-grown tools.

Attendees will not be able to obtain either of the codes at the workshop but can obtain the latest release through the Radiation Shielding Information Code Center (RSICC) at Oak Ridge National Laboratories subject to distribution limitations.