

Abstract Submitted
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Complete event simulations of nuclear fission¹ RAMONA VOGT,
Lawrence Livermore Natl Lab — For many years, the state of the art for treating fission in radiation transport codes has involved sampling from average distributions. In these average fission models energy is not explicitly conserved and everything is uncorrelated because all particles are emitted independently. However, in a true fission event, the energies, momenta and multiplicities of the emitted particles are correlated. Such correlations are interesting for many modern applications. Event-by-event generation of complete fission events makes it possible to retain the kinematic information for all particles emitted: the fission products as well as prompt neutrons and photons. It is therefore possible to extract any desired correlation observables. Complete event simulations can be included in general Monte Carlo transport codes. We describe the general functionality of currently available fission event generators and compare results for several important observables.

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