The Monte Carlo Method: Versatility Unbounded In A Dynamic Computing World Chattanooga, Tennessee, April 17–21, 2005, on CD-ROM, American Nuclear Society, LaGrange Park, IL (2005)

MCNPX AND OBSERVATIONS FROM 30 YEARS OF MONTE CARLO CODE DEVELOPMENT AT LANL

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The MCNPX Monte Carlo radiation transport code seeks to accurately and efficiently model the interaction of nearly all kinds of radiation (34 particle types so far) at nearly all energies. It is widely used for medical, space, accelerator, safeguards, nuclear power, and many other applications. Since the last RSICC release many significant advancements have been made in physics, source and tally specification, variance reduction, input/output visualization, and computer architecture.

Projects underway are transmutation/burnup, ion transport, CAD links, and magnetic fields. As a general-purpose Monte Carlo code, MCNPX is a vast repository of physics knowledge and a versatile tool for particle transport applications.