One Lattice Gauge Theorist's Perspective on Important Skills and Concepts for Computational Physics Courses

STEVEN GOTTLIEB, Indiana University

Lattice Gauge Theory employs a number of numerical and statistical techniques including: sparse matrix inversion, Monte Carlo methods, higher order numerical integration schemes, resampling methods such as jackknife and bootstrap, and parameter estimation from correlated data. Many of these techniques can be taught to undergraduates in contexts more easily understood than a lattice gauge theory simulation.