

Monte Carlo algorithms are usually embarrassingly parallelizable, and therefore represent ideal candidates for deployment on MPI-based clusters, as well as on distributed Grid infrastructures.

In this talk we will first briefly introduce Grid computing paradigm and available computing resources within the Academic and Educational Grid Initiative of Serbia (AEGIS). Then we will present SPEEDUP MC application for calculation of quantum mechanical transition amplitudes using the effective action approach, illustrate shortly its parallelization and Gridification strategy, and demonstrate typical usage and results in the parallel and Grid environments.