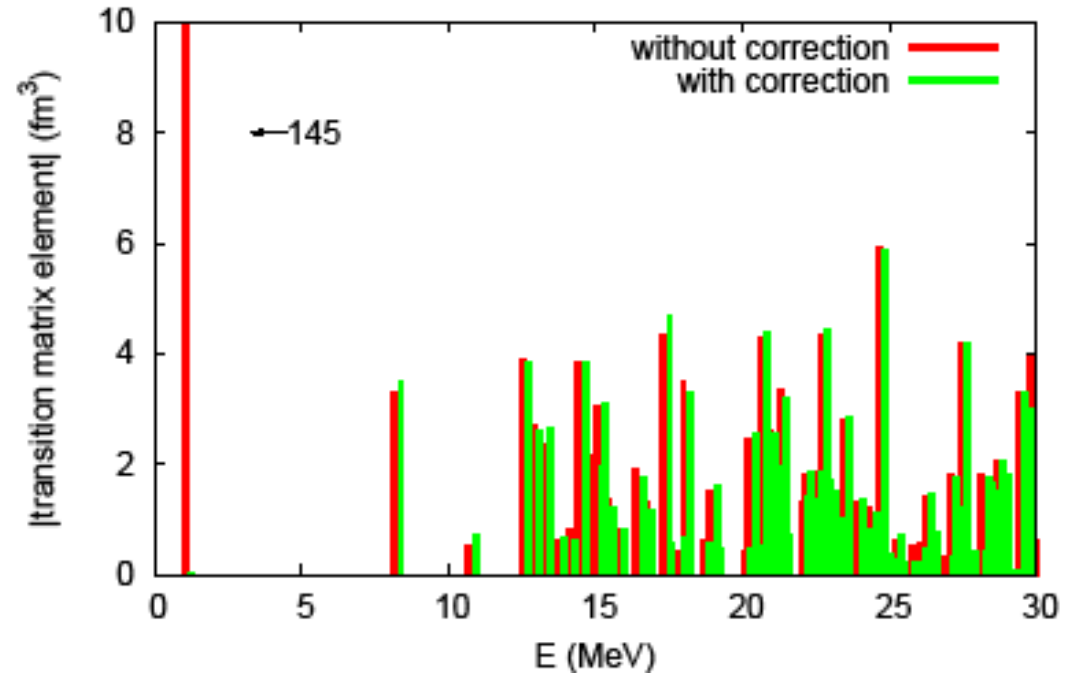


Nuclear Excitement

When “excited” by photons, nuclei can spin and wiggle. Even when quiet, they frequently “decay”, changing one of their neutrons into a proton. **QRPAdef** is a highly parallelized program, running on the fastest supercomputers, that makes precise predictions about nuclear wiggling and decay, either here on earth or in supernova explosions. The lines on the right show the response to photon excitation. The similarity of the red and green lines is a measure of the code’s extreme accuracy.



Remnant of a supernova explosion, during which decay of strange neutron-packed nuclei leads to the creation of heavy elements. Understanding the process is one of the top 10 open questions in physics. QRPAdef will help.

