

Certain class of oxides are said to be Electron Glasses because the dynamics of their electrons is very slow, a bit like that of polymers in regular glasses. In these systems, the electrons are strongly localized by the quenched disorder (impurities, etc), so that electrons can be considered as classical particles that jump from site to site. As the Coulomb interaction is not screened by the medium, they have a long range interaction. Because of this long-range interaction and the natural slowdown of the dynamics, it can be challenging to find the ground state of such systems. CUDA helps in several ways.