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A database for the microscopic description of nuclear fission

We have recently performed a large-scale systematic study of the low-energy nuclear fission of actinides using a microscopic description based on finite-range effective nucleon-nucleon interactions of Gogny type. For each fissioning system, a self-consistent potential energy surface in the elongation-asymmetry deformation subspace has been produced for different nuclear interactions. These potential energy surfaces are of primary importance for the extraction of fission paths, barrier heights, statical fragment properties like total kinetic energies, neutron multiplicities, etc... We have then decided to share these surfaces with the community by making them available on a modern and easy-to-use interactive website. During this presentation, we will explain describe the production of the potential energy surfaces, the extraction of the properties of the fissioning system and of the fragments, and we will then present the database and its web interface. As a conclusion, planned evolutions of the website will be presented, like the inclusion of dynamical properties of the fission process.

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