

## Nucleon density distributions and diabatic potential

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In order to calculate potential energy of two reacting heavy ions different methods are applied. The folding procedure with effective nucleon-nucleon interaction and effective internucleus potentials are widely used [1].

In this report the calculations of diabatic potential energy are carried out for spherical even-even nuclei with  $Z, N \geq 8$ . Potential is obtained with internucleon Migdal forces [2] folded with density distribution that is chosen as a two-parameter Fermi-distribution. Special attention is paid to the choice of nucleonic density parameters: half-density radius and diffuseness. Finally, gained results are compared with the proximity potential [3] and Bass potential [4].

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