Coulomb distorted nuclear matrix elements in momentum space. II. Computational aspects[1] V. EREMENKO, INPP, Ohio Univ., Athens, OH; SINP, Lomonosov Moscow State Univ., Moscow, Russia, N.J. UPADHYAY, NSCL, Michigan State Univ., East Lansing, MI, CH. ELSTER, INPP, Ohio Univ., Athens, OH, F.M. NUNES, NSCL, Michigan State Univ., East Lansing, MI, TORUS COLLABORATION[2] — (d, p) reactions are an important tool to reveal nuclear structure. In order to treat elastic scattering, transfer and breakup reactions on the same footing, it is advantageous to view a (d, p) reaction as three-body problem $p + n + A$ within a Faddeev framework. In order to test a new Faddeev based approach that exactly includes the Coulomb interaction [1] and is valid for light as well as heavy nuclei, as first step Coulomb distorted nuclear matrix elments are calculated. Numerical aspects are explicitly discussed, and results for a variety of nuclei (including ^{208}Pb) will be presented using separable nuclear optical potentials as input.

[1] A.M. Mukhamedzhanov et al. Phys. Rev. C 86, 034001 (2012).

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