

ELASTIC $^{16}\text{O}+^{16}\text{O}$
SCATTERING AND NUCLEUS-NUCLEUS
POTENTIAL WITH A REPULSIVE CORE

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Elastic $^{16}\text{O}+^{16}\text{O}$ scattering at energies of 124, 145, 250, 350, and 480 MeV is analyzed in the framework of the optical model with the use of the nucleus-nucleus potential with a repulsive core. The elastic scattering cross-section is calculated with regard for the core and without it. It is shown that taking the core into account will result in an increase of the elastic scattering cross-section at backward angles. The decomposition of the scattering amplitude into the near- and far-side components is studied.