

# ASYMMETRY IN THE ELASTIC ELECTRON SCATTERING BY GOLD ATOM

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## S u m m a r y

The angular dependence of the spin-exchange asymmetry parameter for the elastic electron scattering by gold atoms within a collision energy range of 0.2–400 eV has been studied in the spin-polarized approximation of the optical potential (OP) method. The calculations are carried out both in the approximation of a parameter-free real OP part and with the use of a complex-valued OP to take absorption effects into account. Two types of the absorption potential were used as the imaginary part of OP. The systematic calculations of the asymmetry were carried out with the use of an empiric absorption potential. An energy-dependent parameter in this potential was determined in the approximation of quasifree electron scattering with the use of a non-empiric absorption potential. The angular dependence of the asymmetry parameter in a wide energy range is shown to be governed by the spin dependences of both exchange and polarization interactions between an electron and an atom. A large influence of absorption effects on the asymmetry parameter behavior is revealed. It is shown that the asymmetry parameter at small scattering angles depends on the choice of the absorption potential even at energies of several hundred eV. bag model, but requires a negative value of the bag constant.