PROTON DISPERSIVE OPTICAL POTENTIAL OF EVEN-EVEN Sn ISOTOPES WITH $100 \leq A \leq 132$

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Proton shell structure of even-even Sn isotopes was studied in a lot of works. The most precise data on proton single-particle energies E_{nlj} and occupation probabilities N_{nlj} for stable Sn isotopes were obtained (see [1] and references therein) by the joint evaluation of the stripping and pick-up reactions data [2] on the same nucleus. In [3], scattering data and bound state data were analyzed by the dispersive optical model (DOM) and obtained magnitude of the proton imaginary surface potential of stable Sn isotopes was more than 2 times greater than that of neutron.

In the present paper, available data on E_{nlj} for stable Sn isotopes and ^{100,132}Sn were analysed by DOM with the parameters which are determined by the method [4,5]. Calculated energies E_{nlj}^{DOM} agree with the data [1] within experimental uncertainties and demonstrate Z=50 shell closure in the region $100 \leq A \leq 132$. Obtained imaginary part of the dispersive optical potential corresponds with the standard asymmetry dependence of the global parameters of optical model potential [6]. A comparison with the predictions of various theoretical calculations was carried out.

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