SHELL OSCILLATIONS IN SYMMETRY ENERGY

V. M. Kolomietz, A. I. Sanzhur

The procedure of derivation of the symmetry energy from the shift of neutron-proton chemical potentials $\Delta\lambda = \lambda_n - \lambda_p$ is suggested. We observe the nonmonotonic (sawtooth) shape of the β-stability line given by the asymmetry parameter as a function of mass number. The behavior of the symmetry energy coefficient $b_{\rm sym}(A)$ at fixed neutron excess $D = N - Z$ is analyzed. We show the relation of local maxima of the β-stability line to mass numbers of the double-closed shells.

Keywords: symmetry energy, isotopic shift, β-stability line, shell oscillations.