GIANT NEUTRON HALO IN NUCLEI BEYOND BETA-STABILITY LINE

V. M. Kolomietz, S. V. Lukyanov, A. I. Sanzhur

The radii of nucleon distribution and neutron skin in nuclei beyond the β-stability line are studied within the extended Thomas - Fermi approximation. We show that the growth of neutron skin in unstable nuclei does not obey the saturation condition because of the neutron coat. The neutron coat indicates the possibility of giant neutron halo which is growing with moving away from the beta-stability line. We demonstrate the presence of strong shell oscillations in the charge radius R_C and the relation of R_C to the isospin shift of neutron-proton chemical potentials $\Delta\lambda = \lambda_n - \lambda_p$ for nuclei beyond the beta-stability line at fixed value of mass number A.