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Projectile fragmentation as a tool to observe shell effects close to the neutron drip-line OLEG TARASOV, Michigan State Univ — In recent experiments, production cross sections for a large number of neutron-rich nuclei produced from the fragmentation of ^{76}Ge (130 MeV/u) and ^{82}Se (139 MeV/u) beams were measured, including 21 new isotopes of the elements $17 \leq Z \leq 26$. Enhanced cross sections of several new nuclei were compared to a thermal evaporation framework, and also have been well reproduced by the LISE^{++} Abrasion-Ablation model with masses derived from the full pf shell-model space with the GXPF1B5 effective interaction. It seems that the systematic trends in the production cross sections demonstrate changes in the nuclear mass surface, that can be explained with a shell model that predicts a subshell closure at N =34 around Z =20. In this contribution it will be discussed why projectile fragmentation is so sensitive to changes in the nuclear mass surface close to the neutron drip-line, and a new dBE production cross section systematics will be presented.

Oleg Tarasov
Michigan State Univ

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