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Production cross sections from ^{82}Se fragmentation as indications of shell effects close to the neutron drip-line O.B. TARASOV, M. PORTILLO, D.J. MORRISSEY, NSCL, A.M. AMTHOR, FRIB, T. BAUMANN, D. BAZIN, J.S. BERRYMAN, B.A. BROWN, NSCL, G. CHUBARIAN, TAMU, N. FUKUDA, RIKEN, A. GADE, T.N. GINTER, NSCL, M. HAUSMANN, FRIB, N. INABE, T. KUBO, RIKEN, J. PEREIRA, B.M. SHERRILL, A. STOLZ, C. SUMITHRARACHICHI, M. THOENNESSEN, D. WEISSHAAR, NSCL — Production cross sections for neutron-rich nuclei from the fragmentation of a ^{82}Se beam at 139 MeV/u with beryllium and tungsten targets have been measured for a large number of nuclei. The nuclides ^{64}Ti,^{67}V,^{69}Cr,^{72}Mn, the most neutron-rich isotopes of the elements $22 \leq Z \leq 25$, have been observed for the first time. The measured cross sections were used to search for trends in the structure of nuclei around ^{54}Ca and were compared with Abrasion-Ablation calculations under the assumption of various mass models. The results confirm our previous investigations from a similar measurement using a ^{76}Ge beam and can be explained with a modified GXPF1B Hamiltonian where the energy of the $f_{5/2}$ orbit is lowered by 0.5 MeV for neutron-rich isotopes around Z=20. The subshell gap at N=34 is reduced compared to the unmodified Hamiltonian.

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