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**Shape changes in neutron rich  $N = 43$  isotones** JASMINE SETHI, A. FORNEY, W. B. WALTERS, J. HARKER, C. J. CHIARA, I. STEFANESCU, University of Maryland, College Park, MD 20742, USA, R. V. F. JANSSENS, S. ZHU, M. P. CARPENTER, Physics Division, Argonne National Laboratory, Argonne, IL 60439, USA — *et al.* Nuclei in the transitional region with  $28 < Z < 50$  and  $40 < N < 50$  are very sensitive to shape changes with addition of individual nucleons due to close-lying neutron orbitals in the *fpg* model space. A systematic comparison of the structure of  $N = 43$  isotones, focussing on new results on  $^{75}\text{Ge}$  and  $^{73}\text{Zn}$  will be presented. Both nuclei were populated in deep inelastic scattering reactions,  $^{76}\text{Ge} + ^{208}\text{Pb}$  and  $^{76}\text{Ge} + ^{238}\text{U}$ , at  $\sim 25\%$  above the Coulomb barrier, using Gammasphere and ATLAS facility at ANL. A number of new transitions and levels have been identified in both nuclei. The experimental results and their comparison to the theoretical calculations will be presented. This work is supported by the U.S. Department of Energy, Office of Nuclear Physics under Contract numbers DE-AC02-06CH11357 and DE-AC02-05CH11231 and under Grant numbers DE-FG02-94ER40834 and by the Polish Ministry of Science Grant numbers 1P03B05929 and NN202103333. This research used resources of ANL's ATLAS facility, which is a DOE Office of Science User Facility

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