

Evidence for the Persistence of the Z=64 Shell Closure in the Z=61, N=82 Nucleus

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The new shell closure at Z=64 has been recently discovered in $^{146}\text{Gd}_{82}$.¹⁾ It is pointed out here that this shell closure persists even in the $^{143}\text{Pm}_{82}$ nucleus with three protons removed from the Z=64 closed shell. Experimental results on ^{143}Pm obtained using the $^{141}\text{Pr}(\alpha, 2n)^{143}\text{Pm}$ and $^{143}\text{Nd}(d, 2n)^{143}\text{Pm}$ reactions. The data are shown in fig. 1 and compared with the corresponding calculated states in the cluster-vibration model in which the assumption of persistence of the Z=64 shell closure is made.

Reference:

- 1) P. Kleinheinz, S. Lunardi, M. Ogawa and M.R. Maier, Z. Phys. A284 (1978) 351

