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## Trap-assisted decay spectroscopy of $N = 49$ isotopes

The  $^{78}\text{Ni}$  region is of particular interest to better understand shell-evolution far from stability and shape coexistence phenomena occurring in the  $N = 40$  region appear to extend to the  $N = 50$  region [1]. Even though the  $N = 50$  shell-closure seems to be rather robust far from stability, several observations of intruder configurations at low energy seem to indicate otherwise. First hints of shape coexistence in this region came from laser spectroscopy as a large mean-square charge radius of an isomer in  $^{79}\text{Zn}$  was measured [2] and soon after  $\beta$ -decay revealed intruder states at low-energy in both  $^{81}\text{Ge}$  and  $^{82}\text{As}$  [3, 4]. Several low-lying isomers originating from intruder configurations are known in the region and hinder spin attribution from decay spectroscopy. This is especially true for  $N = 49$  isotones, for which exists both a low and high-spin isomer. In this context, trap-assisted  $\beta$ -decay could significantly improve our understanding of the region, by providing selective decay of either the isomer or the ground state, and completing the decay schemes along  $N = 49$  by assigning spins of low-lying states in search for intruder states.

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[2] X. F. Yang, C. Wraith, L. Xie, et al., Isomer shift and magnetic moment of the long-lived  $1/2^+$  isomer in  $^{79}\text{Zn}$  : signature of shape-coexistence near  $^{78}\text{Ni}$ . *Phys. Rev. Lett.* 116, 182502 (2016)

[3] C. Delafosse, et al., First trap-assisted decay spectroscopy of the  $^{81}\text{Ge}$  ground state., *Eur. Phys. J. A*, 58(3), 51 (2022)

[4] A. Etilé, D. Verney, et al., Low-lying intruder and tensor driven structures in  $^{82}\text{As}$  revealed by  $\beta$ -decay at a new movable-tape-based experimental setup., *Physical Review C* 91, 064317, 06 (2015)

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