Shape Evolution in Ni isotopic chain

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Shape-transitional phenomena are indicators of alterations in the normal-order configuration of protons and neutrons. For exotic nuclei, they may prelude the discovery of new nuclear regions in which the ground states are dominated by deformed intruder configurations, the so-called islands of inversion. Shape transitions can also take place with excitation energy or angular momentum, leading to the coexistence of different shapes within the same nucleus [1].

The nuclear region around ^{78}Ni, close to the classic shell closures with Z=28 and N=50, has attracted great attention in recent years in particular addressing the evolution of nuclear shapes. Going from the more stable to the very exotic systems a variety of phenomena are encountered, starting from the existence of shape isomerisms found in ^{66}Ni [2] to coexistence of shapes, measured in the heavier systems $^{68-72}$Ni [3, 4].

The Ni isotopic chain has been investigated by the Milano gamma-spectroscopy group exploiting several mechanisms, starting from sub-barrier fusion to β decay, in campaigns performed in world-leading facilities.

An overview of recent results in the Ni isotopic chain will be reported in this talk.

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