Contribution ID: **94** Type: **not specified**

Shape coexistence in Ni isotopic chain

Thursday, 14 July 2022 10:03 (20 minutes)

One of the main unanswered questions of modern nuclear physics is whether the traditional magic numbers of protons and neutrons, such as they are known near stability, are maintained at extreme values of isospin, or whether new magic numbers emerge as a result of the unbalanced neutron-to-proton ratios.
The nuclear region around ^{78}Ni, with 28 protons and 50 neutrons, has attracted great attraction. This work aims at studying the even-even ^{70,72,74}Ni nuclei from β-delayed γ spectroscopy of the ^{70,72,74}Co progenitors to test the strength of state-of-the-art shell-model calculations in the vicinity of the doubly-magic ^{78}Ni core.
β-delayed γ spectroscopy study is providing a large amount of new information in the populated isotopic chains, resulting in the establishment of new decay schemes in the Fe chain and great extension of existing level schemes for the Ni isotopes.
In this contribution an insight on the shape coexistence and seniority conservation in exotic nuclei of the Ni isotopic chain will be given.

Primary author: BENZONI, Giovanna (Instituto Nazionale di Fisica Nucleare (INFN)(INFN-Milano))

Presenter: BENZONI, Giovanna (Instituto Nazionale di Fisica Nucleare (INFN)(INFN-Milano))

Session Classification: Novel aspects and signatures of QPTs in nuclei

Track Classification: Novel aspects and signatures of QPTs in nuclei