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Quadrupole and octupole collectivity in the isotope 106Pd via Coulomb excitation

Shape coexistence is a widespread phenomenon in the nuclide chart. Firstly identified in light nuclei, it has now been observed in several mass regions. Around the shell closure Z=50, shape coexistence has been clearly established in several isotopic chains, particularly in the tin and cadmium isotopes. Intruder states have also been identified in the palladium isotopes. Nevertheless, the coexistence of different shapes has not been firmly established in these nuclei yet. Recent results from our group suggested a different shape of the first excited 0+ state with respect to that of the ground state in 106Pd from E0 measurements. Getting detailed information about the quadrupole shape of the states in this isotope is, therefore, extremely timely. A Coulomb-excitation experiment was performed at the INFN-LNL laboratory with the AGATA-SPIDER setup to investigate the quadrupole collectivity of 106Pd. In this contribution, I will present the first results of this experiment.

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