Contribution ID: **1** Type: **not specified**

Multi-phonon gamma vibration study from AGATA+Gammasphere complimentary setup

Wednesday, 11 March 2026 16:50 (15 minutes)

Rapid shape change occurs in neutron-rich nuclei in the A~100 region. Some of the nuclei in this region also exhibits ellipsoidal shape oscillations, known as gamma vibrations and linked to triaxiality and gamma softness. Furthermore, the two-phonon gamma-vibrations also provide tests of Pauli principle. To study of the evolution of the shapes and level structure, the 104Nb was investigated from two complementary experimental methods: i) high statistics triple- and four-fold gamma coincidences from 252Cf spontaneous fission using Gammasphere and ii) prompt gamma from the induced fission of the 238U+9Be reaction with isotopic fragment identification using the VAMOS++ and the AGATA spectrometers. Observation of multi-phonon gamma vibrations and shape coexistence of this odd-odd nucleus will be presented.

Type of contribution

Regular Abstract

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Session Classification: session 9 (Chair: S. Oberstedt)