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Type: **Invited Talk for Parallel Sessions (Invitation Only)**

## Latest results on gamma spectroscopy with AGATA

*Thursday, 29 May 2025 11:00 (25 minutes)*

The study of nuclear structure around and away from the valley of stability has led to the discovery of new phenomena, such as the occurrence of new shapes, new shell closures and shape coexistence. The detailed study of these features require the use of state-of-the-art gamma spectrometers, such as the AGATA gamma-ray tracking array, providing the highest detection efficiency and position sensitivity, crucial to pin down weak signals.

The Advanced GAMMA Tracking Array (AGATA)[1] is a major European project, involving over 40 institutes in 12 countries, to develop and operate a high-resolution gamma-ray tracking spectrometer.

AGATA is a travelling instrumentation visiting the major European laboratories, GANIL (Fr) [2], GSI-FAIR (D) and INFN-LNL (I) [3].

In this talk the main features of the AGATA array will be presented, together with highlights on recent technical developments and analysis procedures. Examples of experimental campaigns at the 3 main european laboratories will be discussed, with a look forward to future campaigns.

[1] S. Akkoyun et al., Nucl. Instrum. Methods Phys. Res. A 668, 26 (2012). <https://doi.org/10.1016/j.nima.2011.11.081>

[2] E. Clément et al., Nucl. Instrum. Methods Phys. Res. A 855,1 (2017). <https://doi.org/10.1016/j.nima.2017.02.063>

[3] J.J. Valiente-Dobón et al., Nucl. Instrum. Methods Phys. Res. A 1049, 168040 (2023). <https://doi.org/10.1016/j.nima.2023.168040>

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