



Contribution ID : 244

Type : Oral talk

Analog spectrometer of the DGFRS-2 setup: status and developments

Friday, 2 December 2022 19:00 (15)

An upgraded version of the DGFRS-2 (the Dubna Gas-Filled Recoil Separator-2) analog spectrometer to search for rare ER- α correlated sequence in a real-time mode to suppress radically cyclotron associated background signals is presented. New “flexible” algorithm to operate with new analog spectrometer of the DGFRS-2 installed at DC-280 (the JINR Superheavy Element Factory) cyclotron setup is under consideration. The main goal of application of this algorithm is to search an optimal time correlation recoil-alpha parameter directly during the acquisition C++ YDS code execution [1-4]. Note that the spectrometer operates together with the 48x128 strip DSSD (Double Side Strip Detector) detector and low pressure pentane-filled gaseous detector (~1.2 Torr; 80 x 230 mm²) are presented schematically. First beam test results in ⁴⁸Ca and ²⁴²Pu, ²⁴³Am, ²³²Th and ²³⁸U targets induced nuclear reactions are presented too [5-7]. Registered implanted ER spectra are compared with calculated ones. Some attention is paid to stability tests. Half life systematic for Z=119,120 are considered in brief in connection with active correlation method application.

References

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Session Classification : Facilities and Advanced Detector Technologies

Track Classification : Facilities and advanced detector technologies