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

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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 48×128 strip DSSD (Double Side Strip Detector) detector and low pressure pentane-filled gaseous detector (~ 1.2 Torr; 80×230 mm²) are presented schematically. First beam test results in ^{48}Ca and ^{242}Pu , ^{243}Am , ^{232}Th and ^{238}U 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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Primary author(s) : TSYGANOV, Yury (JINR); Mr. IBADULLAYEV, Dastan (JINR); Mr. POLYAKOV, Aleksandr (JINR); Mr. VOINOV, Alexey (JINR); Mr. SHUMEIKO, Maxim (JINR)

Presenter(s) : TSYGANOV, Yury (JINR)

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