

Decay Of High-Spin Isomers Into Odd-Odd Holmium Nuclei With $A=160,158,156$.

Friday, 8 September 2023 11:00 (30 minutes)

The report discusses experimental and theoretical problems of describing high-spin isomers in the beta decay of nuclei. The experiments were carried out within the framework of the Energy-Transmutation program at JINR accelerators and at the YASNAPP experimental complex, created on the basis of the JINR nuclear power Plant phasotron, in “on-line” and “off-line” modes.

The experiments used large-volume HPGe detectors (efficiency 20% - 70%) and planar HPGe detectors (O30mm x 3mm).

In the nuclei of 156,158,160, the lifetimes of 5 levels and half-lives of high-spin isomers were measured. :

$T_{1/2}^{9+} 160\text{m}2\text{Ho} = 3.2 \pm 0.2\text{s}$, $T_{1/2}^{9+} 158\text{m}2\text{Ho} = 21\text{min}$, $T_{1/2}^{9+} 156\text{m}2\text{Ho} = 7.25 \pm 0.35\text{min}$.

The figure shows a fragment of the decay of a high-spin isomer in the 156No nucleus.

Primary author: YUDIN I.P

Co-authors: STEGAILOV V.I; TYUTYUNNIKOV S.I.

Presenter: YUDIN I.P

Session Classification: Plenary