

XXV International Baldin Seminar on High Energy Physics Problems
"Relativistic Nuclear Physics and Quantum Chromodynamics"



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Investigations of transmutation of actinides ^{237}Np , 238 , ^{239}Pu , ^{241}Am at JINR accelerators within the framework of the programs "Energy - Transmutation" and "YASNAPP"

Investigations of transmutation of actinides ^{237}Np , 238 , ^{239}Pu , ^{241}Am at JINR accelerators within the framework of the programs "Energy - Transmutation" and "YASNAPP"

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The experiments were carried out within the framework of the "Energy-Transmutation" program at the accelerators of JINR and at the experimental complex "YASNAPP", created at the Phasotron of the DLNP JINR, in "on-line" and "off-line" modes.

The report describes the experimental technique as when using a uranium assembly "Quinta" and during irradiation on the direct beam of JINR accelerators. Large-volume HpGe detectors (efficiency 20% - 70%) and planar HpGe detectors ($\varnothing 30\text{mm} \times 3\text{mm}$) were used in the experiments.

The yields of nuclei formed in the course of reactions using targets were determined. ^{237}Np , 238 , ^{239}Pu , ^{241}Am .

The ratios of the yields of nuclei formed in the process of neutron capture are determined during nuclear fission reactions.

The possibility of using actinides as a fuel for reactors operating in the electronuclear (ADC) version.

References

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