CADMIUM ISOTOPE PHOTODESINTIGRATION

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Yields of different multiplicity photonuclear reactions on were measured by method of induced activity for three different cadmium targets - cadmium natural isotopic mixture, ^{116}Cd and ^{112}Cd isotopes. As a source of high energy *X*-rays we used bremsstrahlung radiation with end point energy 55 MeV.

Experiment was conducted on race-track microtron RM-55 accelerator [1]. The yields of photonuclear reactions for several channels of excited states of cadmium isotopes in the energy range up to 55 MeV were measured for the first time.

First time obtained decay channels ^{112}Cd(γ,n)^{111m}Cd, ^{112}Cd(γ,p)^{111}Ag, ^{112}Cd(γ,pn)^{110m}Ag.

Comparison of experimental data and theoretical calculations by combined model of photonuclear reactions [1] and TALYS program [2] demonstrates rather good description of experimental results for photoneutron reactions for heavy cadmium isotopes. For channels with proton emission only model [1] is in according with experimental data. Model [2] doesn't take in account specific features of $T_>$ isospin component decay of Giant Dipole Resonance, and underestimate proton emission channel.

For light isotope ^{106}Cd theoretical calculations are in contradiction with experimental data. Probably this can be explained by specific features of shell structure of ^{106}Cd, which is situated near the β-stability boundary.

For isotopes ^{115}Cd and ^{104}Ag isomeric ratios were calculated. Theoretical calculations [2] are in reasonably good agreement with experimental data.

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