Synthesis of $^{292}116$ in the $^{248}Cm + {}^{48}Ca$ Reaction*

Yu. Ts. Oganessian, V. K. Utyonkov, and K. J. Moody[1)]

Joint Institute for Nuclear Research, Dubna, Moscow oblast, 141980 Russia

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Abstract—We report on the observation of the first decay event of the new nuclide $^{292}116$ produced in an experiment devoted to the synthesis of $Z = 116$ nuclei in the $^{248}Cm + {}^{48}Ca$ reaction. The implantation of a heavy recoil in the focal-plane detector was followed in 46.9 ms by an α particle with $E_\alpha = 10.56$ MeV. The energies and decay times of the descendant nuclei are in agreement with those observed in the decay chains of the even–even isotope $^{288}114$, previously produced in the $^{244}Pu+^{48}Ca$ reaction. Thus, the first α decay should be attributed to the parent nuclide $^{292}116$ produced via the evaporation of four neutrons in the complete fusion of ^{248}Cm and ^{48}Ca. The experiment is in progress at Flerov Laboratory for Nuclear Reactions (FLNR, JINR, Dubna). © *2001 MAIK "Nauka/Interperiodica".*