NEW EXPERIMENTAL DATA OF $^{54}Fe(n, \alpha)^{51}Cr$ REACTION CROSS-SECTION IN 4.5–7 MeV NEUTRON ENERGY REGION

Bondarenko I.P., Khryachkov V.A., Khromyleva T.A., Semenova N.N., Sergachev A.I.
State Scientific center of the Russian Federation - Institute for Physics and Power Engineering, Obninsk, Russia
E-mail: ibondarenko@ippe.ru

New experimental data of helium production reaction cross-section on nuclei of constructional materials is of importance for strength calculations for alloys with these materials. Iron is a part of almost all alloys in reactor construction. The ^{54}Fe isotope is the second in natural composition – 5.81% after ^{56}Fe isotope which is 91.75%. New experimental data of $^{54}Fe(n, \alpha)^{51}Cr$ reaction cross-section in neutron energy region from 4.5 to 7 MeV are represented in this work.