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wpGe(p, γ)w \acute{z} As and wvGe(p,n)wvAs cross sections for the astrophysical p process : sensitivity of the optical proton potential at low energies

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The cross sections of the Ge-70(p, γ)As-71 and Ge-76(p,n)As-76 reactions have been measured with the activation method in the Gamow window for the astrophysical p process. The experiments were carried out at the Van de Graaff and cyclotron accelerators of ATOMKI. The cross sections have been derived by measuring the decay gamma-radiation of the reaction products. The results are compared to the predictions of Hauser-Feshbach statistical model calculations using the code NON-SMOKER. Good agreement between theoretical and experimental S factors is found. Based on the new data, modifications of the optical potential used for low-energy protons are discussed.

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