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رسالة أُعدت لنيل درجة الماجستير في الفيزياء الإشعاعية

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Study of Activity of Chain Neutron Reaction

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Abstract

In this paper, a theoretical study of the interactions serial induced thermal neutrons single external energy completed. In this study, was kept on the premises, which were imposed on the approved theory during the conclusion is that the sample is thin and that the package mono-energy and high-flow, however, inferred he had overlooked the role of neutron interactions Altssulaihvlm take into account, as was always that Alnochledalmhaa is always stable assumed.

As Achtqguet mathematical equations that given the number of cores (Oalnchat) for all isotopes Mamugodh in the sample element whether in stable or active Ahaaih.ohecma, got a more accurate process Altencitalonniokhzt characterization mind that Alnochledalmhaalis necessarily be stable, and also took into account the impact of serial interactions on the number of cores (Oalnchat) of different isotopes of the element in the sample studied.

An application comparative study between primitive equation and derived equations is conducted, using the experimental results from research, published in *The Journal of Al-Baath University*, Vol. 29, No 5, 2007, titled:***Using Low Activity Gamma-ray Spectroscopy for Determination of Neutron Source flux***. Therefore, by using primitive and derived equations, the number of nuclei of the irradiation isotopes is found to be more accurate when using the latter,but the calculation is found to be more difficult. The difficulty can be avoided, using computer software.