

MEASUREMENT OF T -ODD EFFECTS IN THE NEUTRON INDUCED FISSION OF ^{235}U AT A HOT SOURCE OF POLARIZED RESONANCE NEUTRONS

Kopatch Yu.N.¹, Novitsky V.V.^{1,2}, Ahmadov G.S.^{1,6}, Gagarski A.M.³,
Berikov D.B.^{1,7}, Zhumadilov K.Sh.⁷, Danilyan G.V.^{1,2},
Hutanu V.⁴, Klenke J.⁵, Masalovich S.⁵

¹ *Joint Institute for Nuclear Research, Dubna, Russia;*

² *Institute for Theoretical and Experimental Physics of National Research Centre "Kurchatov Institute", Moscow, Russia;*

³ *Petersburg Nuclear Physics Institute of National Research Centre "Kurchatov Institute", Gatchina, Russia;*

⁴ *Institut für Kristallographie, RWTH Aachen and Jülich Centre for Neutron Science at Heinz Maier-Leibnitz Zentrum, Garching, Germany;*

⁵ *Forschungs-Neutronenquelle Heinz Maier-Leibnitz, Garching, Germany;*

⁶ *National Nuclear Research Centre, Baku, Azerbaijan;*

⁷ *L.N.Gumilyov Eurasian National University, Astana, Kazakhstan*

E-mail: daniyar.berikov@gmail.com

The TRI effect was first discovered in the ternary fission in a series of experiments performed at the ILL (Grenoble) reactor by a collaboration of Russian and European institutes and carefully measured for several fissioning nuclei. Later, the ROT effect has been observed in the emission of prompt gamma rays and neutrons in fission of ^{235}U and ^{233}U , although its value was an order of magnitude smaller than in the α -particle emission from ternary fission. All experiments performed so far were done with cold polarized neutrons, what assumes a mixture of several spin states, the weights of these states are not well known. The present paper describes the first attempt to get "clean" data by performing the measurement of gamma and neutron asymmetries in an isolated resonance of ^{235}U at the POLI instrument of the FRM-2 reactor in Garching.