

PREPARATION FOR EXPERIMENTAL SEARCHING FOR STERILE NEUTRINO

Serebrov A.P.¹, Fomin A.K.¹, Zinov'ev V.G.¹, Loginov Yu.E.¹, Onegin M.S.¹,
Gagarskiy A.M.¹, Petrov G.A.¹, Solovei V.A.¹, Chernyi A.V.¹,
Zhrebtssov O.M.¹, Antonov N.E.¹, Martem'yanov V.P.², Tsinoev V.G.²,
Tarasenkov V.G.², Aleshin V.I.², Petelin A.L.³, Pavlov S.V.³, Svyatkin M.N.³,
Izhutov A.L.³, Sazontov S.A.³, Ryazanov D.K.³, Gromov M.O.³,
Khramkov N.S.³, Rykalin V.I.⁴

¹*PNPI, Gatchina, Russia; ²NRC «Kurchatov Institute», Moscow, Russia; ³RIAR,
Dimitrovgrad, Russia; ⁴SRC IHEP, Protivino, Russia*

E-mail: zergiummail@mail.ru

The “Neutrino-4” experiment for the 100-MW SM-3 reactor in Dimitrovgrad has been developed with the aim of testing the reactor antineutrino anomaly [1, 2] and foundation oscillation to sterile state at Petersburg Nuclear Physics Institute. The advantage of this reactor for studying the antineutrino anomaly is a low background level and small volume of the active zone. The model of antineutrino detector was built and the first measurement was carried out at the distance of 6-10 m. from active zone of the reactor.

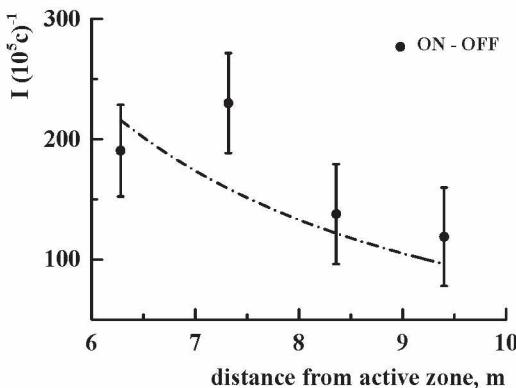


Fig. 1. Verification of $1/r^2$ law by least-squares procedure approximation.

1. G.Mention, M.Fechner, Th.Lasserre *et al.* // Phys. Rev. D. 2011. V.83. 073006.
2. T.Mueller, D.Lhuillier, M.Fallot *et al.* // Phys. Rev. C. 2011. V.83. 054615.