

Neutron lifetime: experimental problem or anomaly?

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The review of experimental measurements of neutron lifetime is presented. Latest measurements with gravitational trap (PNPI NRC KI) and magnetic trap (LANL, USA) confirmed the result obtained by PNPI group in 2005. The results of measurements performed using UCN storing method are in good agreement; however there is a significant discrepancy at 3.5σ (1% of decay probability) level with beam method experiment. That discrepancy is mentioned in scientific literature as “neutron anomaly”. The possible sources of the discrepancy are discussed.

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