

Preparing a Measurement of the Charge of the free Neutron within qBounce

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The electric charge of the Neutron is one of the last parameters in the standard model of particle physics, that can't be derived out of the accepted theoretical framework. Thus for refining the existing model and to exclude extensions to the same, it is necessary to measure the value of the electric charge to an high precision and accuracy.

With our Gravity Resonance Spectroscopy technique we plan to measure the charge of the Neutron by mimicking Ramsey's Method of separated oscillating fields. This approach has the prospect of improving the existing limit on the neutrality of the Neutron [1].

[1] K. Durstberg-Rennhofer et al., Phys. Rev. D 84, 036004 (2011)

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