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# Probing additional dimensions in the universe with neutron experiments

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## Abstract

We carry out a simple analysis of  $(n+3)$ -dimensional gravity in the context of recent work on  $\sim$ large<sup>TM</sup> supplementary dimensions and deduce a formula for the expected compactification radius for the  $n$  additional dimensions in the universe, as a function of the Planck and the electro-weak scales. We argue that the correspondingly modified gravitational force gives rise to effects that might be within the detection range of dedicated neutron experiments. A scattering analysis of the corresponding modified gravitational forces suggests that slow neutron scattering off atomic nuclei with null spin may provide an experimental test for these ideas.



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