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The neutron decay problems and new physics

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Different methods of measuring the neutron lifetime lead to discrepant results at about 4.5 sigma. These anomalies are maybe related to yet unfixed systematics but they also can be an indication to new physics beyond the Standard Model. In particular, they can be explained by a neutron transformations in dark matter particles, or they could indicate to new non-standard interactions which modify the neutron beta-decay asymmetries. I overview different scenarios which can explain the existing anomalies and which are consistent with the present experimental and astrophysical bounds, and discuss in which type of new experiments these scenarios could be tested.

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