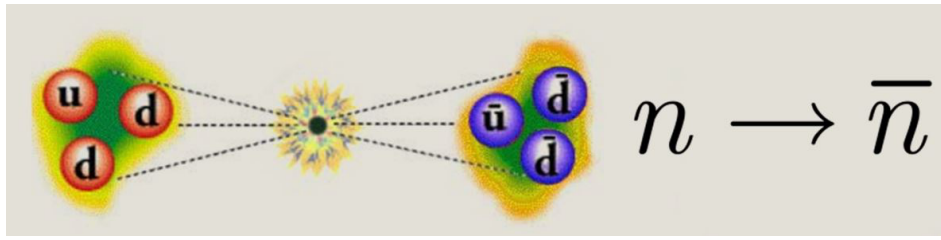


Theoretical Innovations for Future Experiments Regarding Baryon Number Violation, Part 1



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Exciting New Possibilities for Baryon Number Violation

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Proton decay can be sufficiently suppressed in an extra-dimensional model where Standard-Model (SM) fermions are localized at different points in the extra dimension(s), whereas n - \bar{n} oscillations can occur at a rate comparable to the current observable limit. We show that in a left-right symmetric model with extra dimensions this effect is even more enhanced. Several nucleon and dinucleon decays to leptonic final states are considered in the extra-dimensional framework and found to be sufficiently suppressed. n - \bar{n} oscillations are special in this extra-dimensional framework as separating quark and lepton wavefunctions in the extra dimensions to suppress nucleon and dinucleon decays to leptonic final states does not suppress n - \bar{n} oscillations, which only involve quarks.

Contribution Title

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Primary author: Mr GIRMOHANTA, Sudhakantha (Stony Brook University)

Co-author: SHROCK, Robert (C. N. Institute for Theoretical Physics, Stony Brook University)

Presenter: Mr GIRMOHANTA, Sudhakantha (Stony Brook University)