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## Charge-Exchange Reactions as Probes of Neutrinoless Double-Beta Decays

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Neutrinoless double-beta decay is a hypothetical weak-interaction process in which two neutrons inside an atomic nucleus simultaneously transform into protons and only two electrons are emitted. Since the electrons are emitted without accompanying antiparticles, the process violates the lepton-number conservation and requires that neutrinos are Majorana particles, hence providing unique vistas in the physics beyond the Standard Model of particle physics. The potential to discover new physics drives ambitious experimental searches around the world. Extracting interesting physics from the experiments however relies on nuclear-theory predictions, which remain a major obstacle. I will discuss the potential of charge-exchange reactions, mediated by the strong interaction, to provide insights on these nuclear-theory predictions. In particular, I will discuss theoretical studies relating double Gamow-Teller transitions and neutrinoless double-beta decay of the same nucleus.

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