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### **Testing the Majorana Nature of the Neutrino with Germanium Detectors**

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Among the known fundamental particles, only the neutrino could be a Majorana particle, a fermion for which the particle and antiparticle states are identical. The discovery of neutrino mass and its tininess relative to the other leptons and quarks has greatly strengthened the theoretical motivation for Majorana neutrinos. Far from being just a matter of trivia, the nature of the neutrino has deep implications for issues as far reaching as Grand Unification, the symmetries of the Standard Model, and the prevalence of matter over antimatter in the universe. I will discuss the neutrino's role in these important issues, and introduce the only known viable experimental probe of this physics: searches for neutrinoless double-beta decay. I will make the case for performing such searches using germanium semiconductor detectors, and I will discuss the status of current experiments as well as future capabilities of large-scale germanium detector arrays.