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# First Results from the T2K Neutrino Oscillation Experiment

Department of Physics Colloquium

The past decade has shown us that, contrary to expectations, neutrinos have both masses and mixings between flavors. In a study of contrasts, their masses are ridiculously small, but the rates at which neutrinos change from one flavor to another are remarkably large. T2K is a new experiment to study what happens to a beam of neutrinos as it passes through the Honshu island in Japan. By shoot a beam of muon neutrinos from Japan's Pacific coast to the Super-Kamiokande detector 295km away, T2K hopes to observe muon neutrinos turning into electron neutrinos. This measurement is the cornerstone of a long-term effort to determine if neutrinos and anti-neutrinos behave identically, and may ultimately address the question of why our universe is made of matter and not anti-matter. I will present the first oscillation results from T2K and report on the current status of the experiment, including recovery efforts after the March 11 earthquake.

