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The Observation that the Three Types of Neutrino Flavor

he observation that the three types of neutrino flavor oscillate among themselves led to the realization that neutrinos have a very small but non-zero mass. This is extremely important because the supremely successful Standard Model of particle physics had expected, and indeed needed, the neutrinos to have exactly zero mass. Since the discovery of neutrino oscillations over the last 15 years, the parameters of the oscillations have been sufficiently well measured to turn neutrino oscillations into a tool for learning more about the elusive neutrino. I will explain the concept of neutrino oscillations, and report on the recent results from around the world in context with the new challenges now facing researchers of inferring the remaining unknown neutrino properties. I will talk briefly about an exciting new project on the horizon for the very near future.

