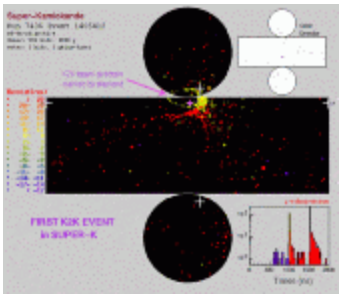
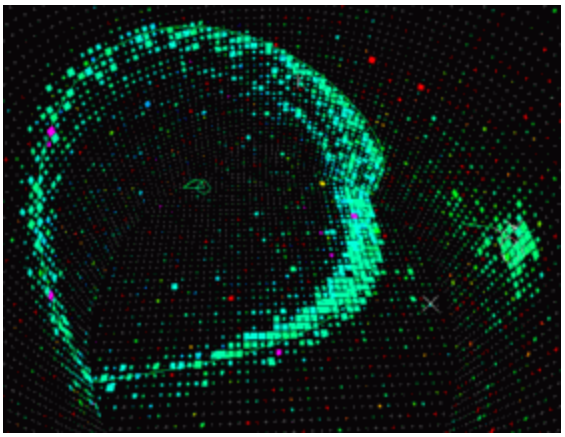
Just in case you missed it! *(An ARO-FE Summary from a July 17, 2000 Japanese Press Release)*

The K2K experiment confirmed, within 95 % accuracy, the existence of neutrino oscillations. The phenomenon of neutrino oscillation (muon neutrino to tau neutrino) requires neutrino to have mass. Scientists believe that the accuracy of 99 % would be achieved within a few years.

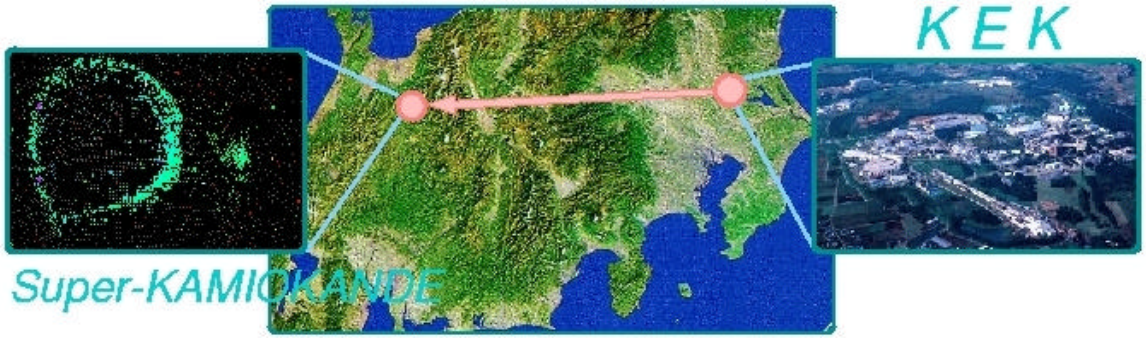
Seventeen events of neutrino have been accumulated since June 19, 1999 when Long-baseline Neutrino Oscillation Experiment observed its first neutrino after passing through 250km of earth in the Super-Kamiokande detector. All events were detected at the estimated time within the accuracy of 1 μ s. The probability that the event came from an atmospheric neutrino interaction is estimated to be 0.01% or one part in ten thousand.

The results of this experiment will impact the elementary particle physics, cosmology and astrophysics. The phenomenon of neutrino oscillation which requires neutrinos to have a non-zero mass, will alter our view of the world of elementary particles. Consequently the Standard Model, the currently prevailing theory of the elementary particles, must be modified. The finding will also make the theories of the Grand Unification more viable and attractive, and make the universe heavier than we currently assume.





In the K2K experiment, the neutrino beam generated by the KEK proton synchrotron accelerator is aimed at the near and far detectors, which are carefully aligned in a straight line. KEK is the Japan National



Super-Kamiokande Detector is a 50,000-ton water Cherenkov detector situated at the Kamioka