【Mathematics/Physics】

Title of Project	New Development of Neutrino Physics by Reactor Neutrinos
Principal Investigator Name	Fumihiko Suekane, Tohoku University, Graduate School of Science, Associate Professor
Abstract of Research Project **Number of Researchers : 5** **Term of Project: 2008-2012**	The neutrino is an elementary particle which is not well understood yet. Knowing the properties of neutrino is important to deepen our understanding of the nature. There are 3 types of neutrinos. The type changes spontaneously during traveling due to neutrino oscillation. There are 3 kinds of neutrino oscillations. Two of them have already been measured. However, the 3rd oscillation has not been detected yet. The purpose of this experiment is to discover the last neutrino oscillation using reactor neutrinos. The experiment will be performed at Chooz nuclear power station in France. By comparing the data from 2 neutrino detectors which locate near and far from the reactors, the amplitude of the 3rd neutrino mixing will be precisely measured. This experiment completes the determination of amplitudes of all three neutrino oscillations and the neutrino physics will go into a new step.