

## Extraction of Neutrino Flux from the Inclusive Muon Cross Section

*Wednesday 27 August 2014 11:50 (25 minutes)*

Extraction of the neutrino-flux from the data of the neutrino-nucleus reaction is of crucial importance to obtain the parameters of neutrino mixing. The observed events of neutrino reaction are the average over the neutrino flux.

In this presentation, we report a new method to extract neutrino flux from the data of inclusive muon production cross section by using maximum entropy method (MEM). The method is tested by using pseudo data of muon distribution. The results shows that the neutrino flux is well reconstructed without assuming quasi-elastic reaction mechanism using MEM.

### WG3: Accelerator Physics (Yes/No)

No

### WG2: Neutrino Scattering Physics (Yes/No)

Yes

### WG4: Muon Physics (Yes/No)

No

### WG1: Neutrino Oscillation Physics (Yes/No)

No

### Type of presentation

Oral presentation

**Author:** Mr MURATA, Tomoya (Department of Physics, Osaka University)

**Co-author:** Prof. SATO, Toru (Department of Physics, Osaka University)

**Presenter:** Mr MURATA, Tomoya (Department of Physics, Osaka University)

**Session Classification:** WG2: Neutrino Scattering Physics