

Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

Measurement of γ -rays from giant resonances of ^{12}C and ^{16}O
IWA OU, Okayama University, RCNP E398 COLLABORATION — Oxygen and carbon are the most common targets in neutrino experiments such as Super Kamiokande(H_2O) and Daya-Bay (liquid scintillator). The γ -ray production from neutral current (NC) ν - ^{16}O and ν - ^{12}C (inelastic scattering) is applicable to the measurement of core-collapse supernova neutrinos. A core-collapse supernova emits all type of neutrino with mean energy of 10-20MeV. In most neutrino detectors, the main signal is charged current event which can detect electron type neutrino only. While in NC event, mu and tau type neutrino can be detected. Therefore NC event is very important for the understanding of supernova mechanism. NC events will be identified by detecting the γ -rays emitted from giant resonances of ^{16}O and ^{12}C . But there is no experimental data for γ -ray production from these resonances. Our goal is to measure the γ -ray emission probability and energy spectrum from these resonances. We carried out an experiment to measure γ -rays from giant resonance of ^{16}O and ^{12}C using 400MeV proton beam, magnetic spectrometer “Grand Raiden” and NaI(Tl) γ -detector at Research Center for Nuclear Physics in Osaka University. In this talk, experimental setup and current analysis status will be presented.

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Date submitted: 30 Jun 2014

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