RCNP EXPERIMENT E276

PROPOSAL FOR EXPERIMENT AT RCNP

18 January 2005

TITLE: Completion of E240 II. Continuing Investigation of the Compressional-mode Giant Resonances: Measurements in the Sn Isotopes as Tests for the Non-relativistic and Relativistic Calculations for the Nuclear Incompressibility

SPOKESPERSONS:

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EXPERIMENTAL GROUPS:

University of Notre Dame, USA - Kyoto University, Japan - Research Center for Nuclear Physics, Japan - Konan University, Japan - KVI, the Netherlands.

RUNNING TIME:

Total running time not including beam preparation	6 days

BEAM LINE:

BEAM REQUIREMENTS:

Type of particle	^{4}He
Beam energy	400 MeV
Beam intensity	1 nA
Other requirements	beam must be halo-free
	highest stability over the running period is required

BUDGET: Summary of budget expenses

No budget requested.

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SUMMARY OF THE PROPOSAL

We request beam time to finsh measurements proposed in E240. The experiment, aimed at looking at the compressional-mode giant resonances in a series of Sn isotopes (A=112–124), was performed last July. However, because of some difficulties, not all desired data could be obtained. We now propose to take inelastic scattering data for high-excitation energies (E_x = 25–50 MeV). This is required to fully map out the strength distributions of the Isoscalar Giant Dipole Resonance (ISGDR) and to compare them with theoretical strength distributions that have recently become available in all these isotopes. In this revised version, we provide the detailed description of beam requirements, as mandated by the B-PAC in their comments.