

PROPOSAL FOR EXPERIMENT AT RCNP

25 July 2002

TITLE: Continuing Investigation of the *Isoscalar* Giant Dipole Resonance

SPOKESPERSONS:

U. Garg, Physics Department, University of Notre Dame, Notre Dame, IN
46556, USA

e-mail: garg@nd.edu

FAX: 1.219.631.5952

H. Sakaguchi, Department of Physics, Kyoto University, Kyoto 606-8502,
Japan

e-mail: sakaguchi@ne.scphys.kyoto-u.ac.jp

EXPERIMENTAL GROUP :

K. B. Nayak	U. ND		J. Osta	U. ND	
S. Zhu	U. ND		M.N. Harakeh	KVI	P
M. Fujiwara	RCNP	AP	K. Hara	RCNP	D3
K. Ichihara	RCNP		M. Itoh	RCNP	Res. Fell.
T. Kawase	RCNP	M2	K. Nakanishi	RCNP	M2
M. Yosoi	Kyoto U.	RA	R.G. Zegers	RCNP	COE
S. Kishi	Kyoto U.		H. Takeda	Kyoto U.	JSPS
S. Terashima	Kyoto U.	M2	N. Tsukahara	Kyoto U.	
M. Uchida	Kyoto U.	D3	K. Yasuda	Kyoto U.	D2
H. Akimune	Konan U.	AP	K. Yamasaki	Konan U.	D3

RUNNING TIME:

Total running time not including beam preparation 5 days

BEAM LINE:

BEAM REQUIREMENTS:

Type of particle	^4He
Beam energy	400 MeV
Beam intensity	2 nA
Other requirements	beam must be halo-free highest stability over several days is required

BUDGET: Summary of budget expenses

Experimental expenses 0 yen

TITLE: Investigation of the charged-particle decay of the *Isoscalar* Giant Dipole Resonance and the *Isvector* Giant Quadrupole Resonance

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H. Sakaguchi, Department of Physics, Kyoto University, Kyoto 606-8502, Japan

SUMMARY OF THE PROPOSAL

The proposed measurements aim at investigating the Isoscalar Giant Dipole Resonance (ISGDR) in detail. As part of RCNP experiment E151, we have investigated the compressional-mode giant resonances in several medium- and heavy-mass nuclei (^{58}Ni , ^{90}Zr , ^{116}Sn , $^{144,148,152,154}\text{Sm}$, and ^{208}Pb). The purpose of the proposed measurements is to extend the investigation to the lighter nuclei, ^{40}Ca and ^{28}Si , in order to develop systematics of the ISGDR (and GMR) over the entire range of the periodic table, in conjunction with complementary measurements on ^{12}C , ^{16}O , and ^{24}Mg , being carried out by the Kyoto group.