RCNP EXPERIMENT E152

PROPOSAL FOR EXPERIMENT AT RCNP

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TITLE:
Measurements of Intermediate Energy Neutron Transport through Materials

SPOKESPERSON:

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EXPERIMENTAL GROUP:

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RUNNING TIME:	Installation time without beam	1 days(for each beam time)
	Development of device	1 days
	Data runs	3 days
BEAM LINE:		Ring : N0 course
BEAM REQUIREMENTS:	Type of particle	p
	Beam energy	150 MeV
	Beam intensity	$\leq$ 500 nA
	Any other requirements	energy resolution $\leq$
		halo-free, small emittance
BUDGET:	Experimental expenses	0 yen

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SUMMARY OF THE PROPOSAL

To obtain standard data of neutron attenuation rate in shield materials and to understand the reliability of simulation calculation methodology for monoenergetic neutrons, neutron spectra just behind shield materials are measured by unfolding method, using a 10 in. by 10 in. NE-213 as the detector. Attenuation rate of peak neutrons is also measured by TOF method. As the first trial of the experiment, iron shields up to 60 cm and 150 MeV monoenergetic neutrons are used. The minimum requirement of the beam time is 3 days.