PROPOSAL FOR EXPERIMENT AT RCNP

July 22, 2015

TITLE:

Study of High-Spin States in 91Y, 93,94Nb and 94Zr: Search for A New Reduction of the Z=38 and N=56 Sub-Shell Gaps

SPOKESPERSON:

Full Name Bingshui Gao

Institution Institute of modern Physics, Chinese Academy of Sciences (IMP, CAS)

Title or Position Assistant Researcher

Address 509 Nanchang Rd., Lanzhou 730000, China

Phone number +86-0931-4969300 FAX number +86-0931-4969281 E-mail gaobsh@impcas.ac.cn

EXPERIMENTAL GROUP:

Full Name	Institution	Title or Position
Jianguo Wang	IMP, CAS	Associate Researcher

Minliang Liu IMP, CAS Researcher IMP, CAS Xiaohong Zhou Researcher Yuhu Zhang IMP, CAS Researcher IMP, CAS Researcher Zhong Liu

Yunhua Qiang IMP, CAS Assistant Researcher

IMP, CAS Kailong Wang D1

Associate Professor E. Ideguchi RCNP, Osaka University

N.i Aoi RCNP, Osaka University Professor RCNP, Osaka University Post-Doc Yongde Fang

RUNNING TIME: Installation time without beam 4 days

> Test running time for experiment $0.5 \, \mathrm{day}$ 4 days Data runs

BEAM LINE: AVF: EN course Type of particle BEAM REQUIREMENTS:

 ^{11}B (86Kr, $\alpha 2n$) ^{91}Y , ^{11}B Reactions to be used

 $(^{86}\text{Kr}, xn)^{93,94}\text{Nb} \text{ and } ^{11}\text{B} (^{86}\text{Kr}, p2n\gamma)^{94}\text{Zr}$

Beam energy

290 MeVBeam intensity < 10 pnA