

PROPOSAL FOR EXPERIMENT AT RCNP

**Study for decay mode of the 1^+ states in ^{176}Lu after solar
neutrino absorption
via $^{176}\text{Yb}(^3\text{He},t\gamma)^{176}\text{Lu}$ high resolution coincidence measurement**

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Abstract:

The Gamow-Teller β_- strength from ^{176}Yb has been studied via the $^{176}\text{Yb}(^3\text{He,t})^{176}\text{Lu}$ reaction at 450 MeV. The construction of the Yb-doped scintillator is in progress with world-wide scale with the collaboration of scientists in Japan, US, France, Italy, German and Russia. Detailed study of the γ -decay mode after the solar neutrino absorption is required for this purpose. A γ -coincidence measurement with $\Delta E \sim 150$ keV is will be done to confirm the applicability of a coincidence technique with γ -rays following neutrino absorption.