

MEASUREMENT OF RESONANCE PARAMETER IN THE (n, γ) REACTION FOR T VIOLATION SEARCH

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Large P-violation has been observed in the various compound nucleus so far. The enhance level of P-violation is about 10^6 times larger than that of proton-proton scattering, and it is considered to be caused by the interference between neighboring p- and s-wave resonances that have same angular momentum. It is theoretically predicted that T- violation also can be enhanced by the same mechanism. We are planning to measure such enhanced T-violation using high intensity neutron beam at Japan Proton Accelerator Research Complex (J-PARC). We are currently selecting the candidate nucleus, for examples ^{139}La , ^{131}Xe , ^{81}Br , ^{115}In and so on, for the experiment by observing the (n, γ) reaction at Materials and Life Science Experimental Facility (MLF) BL04 at J-PARC.

Historically, several resonance parameters for the (n, γ) reaction, especially for p-wave resonance, have not yet been well determined due to a low statistics. Thanks to instantaneous high-intense neutron beam at J-PARC/MLF, now we can precisely determine the resonance parameters. In this talk, we will present the result of resonance parameter of ^{139}La , ^{131}Xe , ^{115}In in the (n, γ) reaction.