

## **Study of Discrete Symmetry Breaking Effects in Neutron-induced Compound States**

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The neutron absorption in eV region is dominated by capture process via well-resolved compound states. The breaking of the spatial inversion symmetry is known to be largely enhanced in p-wave compound resonances according to the interference in the entrance channel between neighboring resonances with different angular momentum of incident neutrons. The entrance-channel interference naturally implies the interference between components with different channel spins. Such interference is theoretically predicted to cause an enhancement in the observation of T-odd spin correlation terms which may contained in meson-nucleon interactions. Assuming the CPT-theorem, the enhanced sensitivity to T-violation introduces a new type of CP-violation search beyond the standard model, which may be competitive with other experimental searches such as the neutron electric-dipole-moment measurement. We discuss the study of the interference mechanism to quantify the experimental sensitivity to T-violation and discuss possible experiments with the pulsed neutron beam from intense spallation neutron sources.