Contribution ID: **52** Type: **not specified**

Tensor force and Deltas for the structure of light nuclei

Tuesday, 29 October 2013 10:00 (20 minutes)

It is important to understand the structure of nuclear many-body systems in terms of the bare nucleon-nucleon interactions. In addition, it is necessary to include the effects of three-body force in many-body nucleon system. In this study we treat explicitly Δ(1232) isobar degrees of freedom in the bare interaction, which can be the origin of the three-body forces via the pion exchange. We adopt the Argonne delta model potential(AV28) and study the explicit role of Δ in nuclei. It is surprising that the additional Δ states generate strong tensor interactions though the transitions between N and Δstates, and change various matrix elements from the results of the only nucleon space.

Primary author: Dr HORII, Kaori (Research Center for Nuclear Physics, Oska University)

Co-author: Prof. TOKI, Hiroshi (RCNP, Osaka University)

Presenter: Dr HORII, Kaori (Research Center for Nuclear Physics, Oska University)

Track Classification: Parallel B