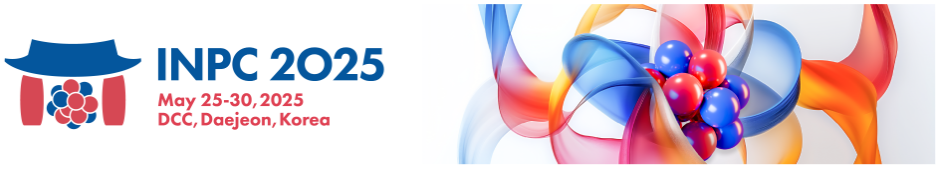

Contribution ID: **417** Type: **Contributed Oral Presentation**

Seniority nature in 94Pd using fast-timing measurement with IDATEN

Thursday, 29 May 2025 17:45 (15 minutes)

We have investigated the seniority feature of ^{94}Pd with its level lifetime measured by the fast-timing technique. The experiment was carried out at the Radioactive Isotope Beam Factory (RIBF) at RIKEN. ^{94}Pd was produced by in-flight fragmentation of a ^{124}Xe primary beam impinging on the ^{9}Be target. The secondary cocktail beams were identified using the BigRIPS separator and implanted into the segmented plastic active stopper at one of the focal points, F11. The gamma rays emitted from the isomeric decay of ^{94}Pd were detected by the International Detector Assembly for fast-Timing measurements of Exotic Nuclei (IDATEN) array, consisting of 48 $LaBr_3$(Ce) detector modules. The high-statistics data obtained by the Twinpeaks+TAMEX4 DAQ system enables us to determine more precisely the half-life of the first 8+ state in ^{94}Pd. These results are expected to provide critical insights into the seniority effects in the region adjacent to the doubly magic nucleus ^{100}Sn.

Primary author: JANG, Youngseub (Korea University)

Co-authors: MOON, Byul (Center for Exotic Nuclear Studies, Institute for Basic Science); HONG, Byungsik (Korea University); Prof. WATANABE, Hiroshi (Beihang University); LEE, Jaehwan (Korea University); REGAN, Patrick (Surrey University); NISHIMURA, Shunji (RIKEN)

Presenter: JANG, Youngseub (Korea University)

Session Classification: Parallel Session

Track Classification: Nuclear Structure