

Contribution ID: 114

Type: **Parallel Session Presentation**

## **Nucleon isovector tensor charge from lattice QCD with physical light quark masses**

*Tuesday, 19 October 2021 21:20 (20 minutes)*

We will present the current status of nucleon structure studies with physical light quarks ( $m_\pi = 135$  MeV) in two large spatial extents of about 10 and 5 fm. Our calculations are performed on 2+1 flavor gauge configurations generated by PACS collaboration with the stout-smearred  $O(a)$  improved Wilson fermions and Iwasaki gauge action at  $\beta=1.82$  corresponding to the lattice spacing of about 0.08 fm. In this talk, we mainly focus on nucleon isovector couplings of axial vector, scalar and tensor channels. Especially, the tensor coupling is known as the 1st Mellin moment of transversely parton distribution function and is itself related to the information of the quark-EDM.

**Primary author:** TSUJI, Ryutaro (Tohoku University)

**Co-authors:** ISHIKAWA, Ken-Ichi (Hiroshima University, Department of Physical Science); AOKI, Yasumichi (KMI, Nagoya University); YAMAZAKI, Takeshi (University of Tsukuba); SASAKI, Shoichi (Tohoku University); Prof. KURAMASHI, Yoshinobu (Center for Computational Sciences, University of Tsukuba)

**Presenter:** TSUJI, Ryutaro (Tohoku University)

**Session Classification:** Joint TMD - GPD - HELCITY - Future session EU timezone

**Track Classification:** Parallel Sessions: Transverse momentum structure (TMD)