東北大学　宇宙創成物理学国際共同大学院プログラム

GP-PU (Graduate Program on Physics for the Universe）Seminar

“Theoretical study of the $^{3}H(p,e^{+},e^{-})^{4}He$ reaction and the search for the particle X17”

by Michele Viviani

(INFN, Pisa)

Time and Date : 14:00 - 16:00, Wed, August 19th 2020

Venue： Register in advance for this meeting:

https://us02web.zoom.us/meeting/register/tZYkcO6hqzooGdWY9bFdYJFn9g08myBDlZN2

Abstract:

(This seminar is organized as a part of Mini-workshop on “Three-body forces and related topics")

Recently, the observation of a new particle (preliminary called X17)in the reaction $^{3}H(p,e+,e-)^{4}He$ has been claimed [1]. This announcement is based on the observation of an unexpected peak in the electron-positron angular distribution. In a precedent experiment, the same experimental group observed an analogous effect in the decay of an excited state of ^{8}Be.We have started the theoretical study of the reaction $^{3}H(p,e+,e-)^{4}He$ by taking into account accurately the four nucleon dynamics and using state-of-the-art electromagnetic transition operators. Preliminary results will be presented.

[1] A. J. Krasznahorkay et al.,(2019) arXiv:1910.10459

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