ID contributo: **114** Tipo: **Poster**

Comparing Sensitivities of Counting and Fitting Methods in Neutrinoless Double Beta Decay Experiments

martedì 18 giugno 2024 17:30 (2 ore)

In the search for neutrinoless double beta decay (0νββ) experiments, common data analysis methods include the traditional counting method within a region of interest, while energy spectrum fitting methods are used in some experiments like KamLAND-Zen. These two types of methods differ in their sensitivities to the 0νββ half-life.
Simulations are performed to quantify such differences, using the background conditions at the China Jinping Underground Laboratory (CJPL). The results of the simulation indicate that the fitting method would yield a higher sensitivity than the counting method by a factor of 1.25. This study discusses the source of these differences, and the conclusions can provide benefits for future 0νββ experiments in selecting data processing methods.

Poster prize

Yes

Given name

Haoyang

Surname

Fu

First affiliation

Tsinghua University

Second affiliation

Institutional email

fu-hy21@mails.tsinghua.edu.cn

Gender

Male

Collaboration (if any)

Autore principale: 付, 昊阳 (清华大学)

Relatore: 付, 昊阳 (清华大学)

Classifica Sessioni: Poster session and reception 1

Classificazione della track: Neutrinoless Double Beta Decay