



東工大 基礎・物性物理学専攻「物理学リーダーシップ」
FGIP: Foreign Graduate Student Invitation Program
外国人博士課程大学院生の短期招待・共同研究
FGIP-Student Forum セミナー

Guillaume Pronost (SUBATECH-Nantes, France)

日時: 2014年10月31日(金) 13:00~14:00, 場所: 本館 H156

Double Chooz: Neutrino detection and background rejection

Abstract:

The Double-Chooz reactor neutrino experiment aims for a precise measurement of the neutrino mixing angle θ_{13} from the PMNS matrix. A cornerstone of this analysis is the thorough investigation of the various backgrounds assailing this measurement: neutrino-like coincidence signals are imitated by accidental coincidences of single events as well as correlated events induced by cosmic muons, including stopped muons, fast neutrons and the spallation isotopes Li-9 / He-8.

In this seminar I will present the current state of investigations for the correlated background sources in the Double-Chooz far detector. It lays out a novel technique devised for identification of the corresponding events. Based on this, an efficient veto technique has been developed in order to limit the impact of the correlated on the result of the oscillation analysis. This technique leads to a reduction of a factor 4 on the correlated background rate uncertainty compared to the previous publication.



教員、修士課程大学院生の参加も歓迎します。

担当 阿部 陽介 (内線2722)

FGIP-Guest student の滞在スケジュール

名前	大学・研究機関	滞在期間	受入担当
Guillaume Pronost	SUBATECH-Nantes, France	10/14 - 11/14	阿部 陽介