



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

**José Ignacio Crespo Anadón** (CIEMAT, Spain )

**Julia Anna Haser** (MPIK Heidelberg, Germany )

日時: 2013年02月12日(火) 10:00 - 12:00, 場所: 本館 H155B

## Double Talk on Double Chooz -

## Measuring the neutrino mixing angle $\theta_{13}$

### Abstract:

The Double Chooz experiment measured a non-vanishing mixing angle  $\theta_{13}$  using reactor antineutrinos from the Chooz nuclear power plant located in France. In this talk, results from 228 days of data taking with the Far detector will be presented, describing the detector components and the analysis performed. The best fit value is  $\sin^2\theta_{13} = 0.109 \pm 0.030$  (stat.)  $\pm 0.025$  (syst.), while  $\theta_{13}=0$  could be excluded at  $2.9 \sigma$  C.L.

The seminar will also cover selected topics of our personal contribution to the experiment: Spill-in/out (neutron migration), pulse shape discrimination, the PMT light noise background and how to remove it, and the inclusion of the future Near detector (expected to start taking data in 2014) in the final fit.



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                       | 滞在期間       | 受入担当  |
|----------------------------|--------------------------|------------|-------|
| José Ignacio Crespo Anadón | CIEMAT, Spain            | 2/1 - 2/28 | 阿部 陽介 |
| Julia Anna Haser           | MPIK Heidelberg, Germany | 2/1 - 2/28 | 阿部 陽介 |