

Physics and Performance Evaluation Group

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5th IDS-NF plenary meeting

April, 2010

Fermilab, Chicago, USA

PPEG reorganization

PPEG is not very strongly represented at this meeting, and this has prompted internal discussion which led to the following plans for reorganizing PPEG with the goal to facilitate strong PPEG representation at all future IDS plenary meetings.

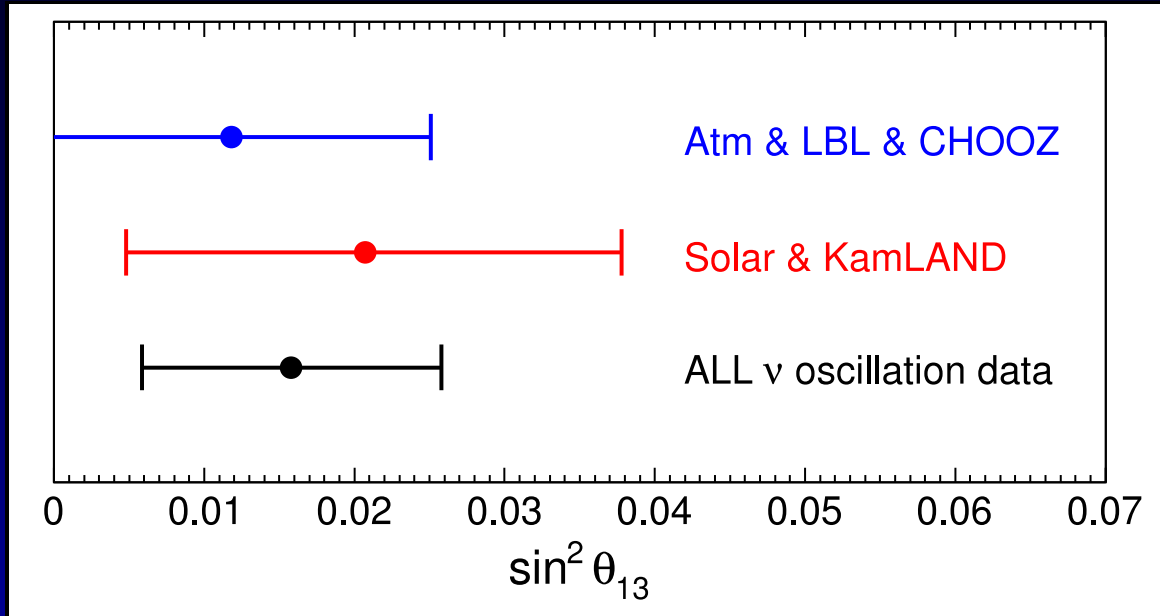
PPEG needs to grow!

NB: Main reason for lack of attendance often is lack of resources; the work itself gets done nonetheless.

PPEG reorganization - cont'd

- growth will be regionally balanced, e.g. we need more Asian and US participation.
- PPEG will be reorganized into regional conveners, which are coordinated by a chair (PH) and co-chair (W. Winter)
- regional conveners are the primary organizers of the PPEG contribution to any plenary meeting in their region
- chair and co-chair represent PPEG in the IDS SG

Hints for $\theta_{13} \neq 0$

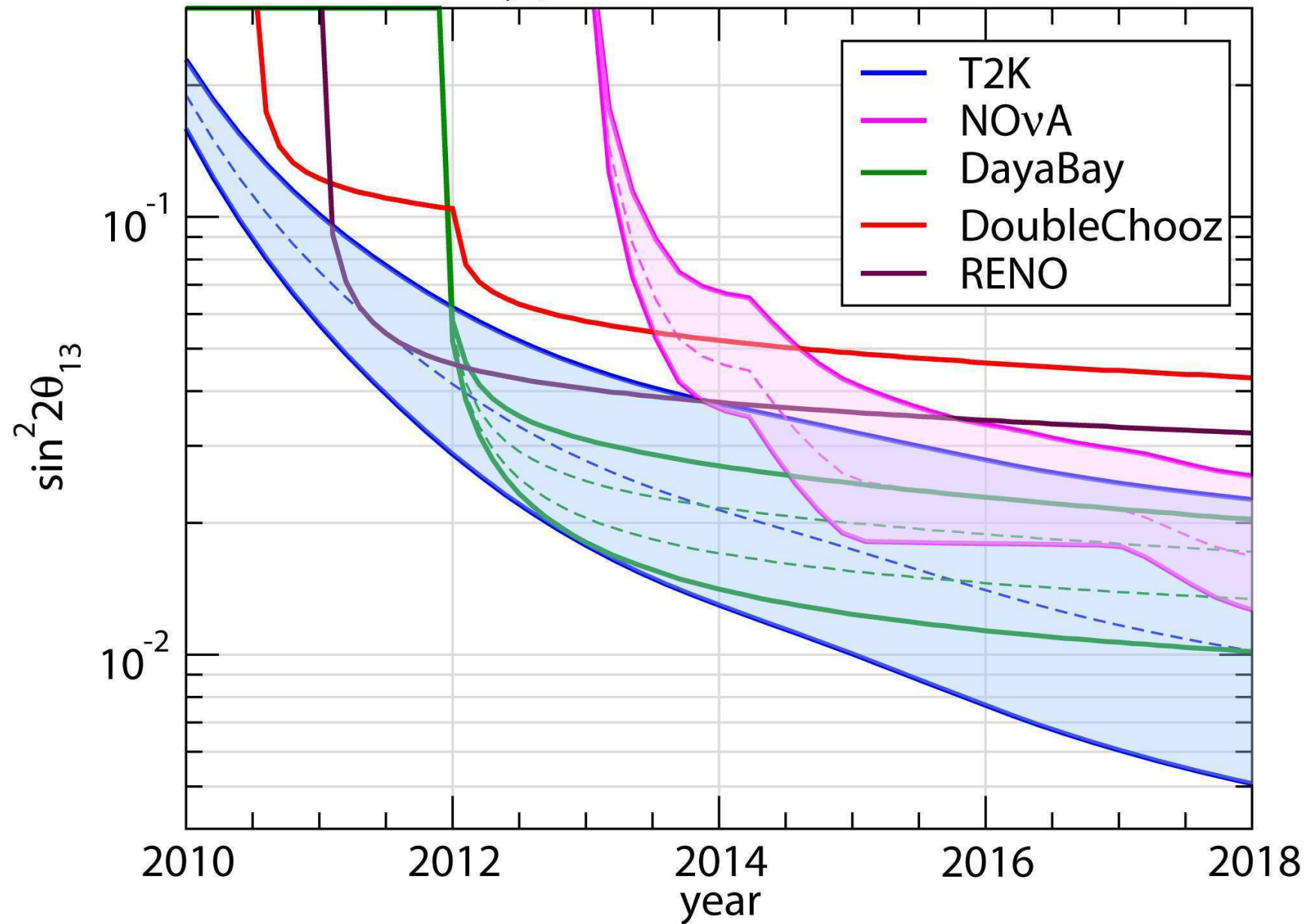


E. Lisi, *et al.*, arXiv:0806.2649.

$$\sin^2 \theta_{13} = 0.016 \pm 0.010 \text{ or } \sin^2 2\theta_{13} = 0.06 \pm 0.04$$

MINOS' first ν_e appearance results, and MINOS will announce result with double statistics tomorrow!

Discovery potential at 3 σ for NH



PH, M. Lindner, T. Schwetz, W. Winter, arXiv:0907.1896v2
M. Mezzetto, T. Schwetz, arXiv:1003.5800

LENF – PPEG perspective

- Conceived in the context of Fermilab - DUSEL
- Do we need to rephrase it in an international, site independent context?
- In any case, we need to study the physics optimization (see PPEG parallel talks)
- Non-standard physics study in progress (talk by T. Li)
- Staging (talk by J. Tang)

PPEG is working hard and making good progress, to be able to present the physics case for a LENS at equal footing to the one for the HENS.

PPEG workshops

There is an overabundance of neutrino related workshops already and we have a hard time attending the IDS plenaries.

Specifically, there will be a summer institute at the INT in Seattle with 2 dedicated workshops on long baseline neutrinos. Moreover, Europe, will have a CERN theory institute on neutrino physics in fall.

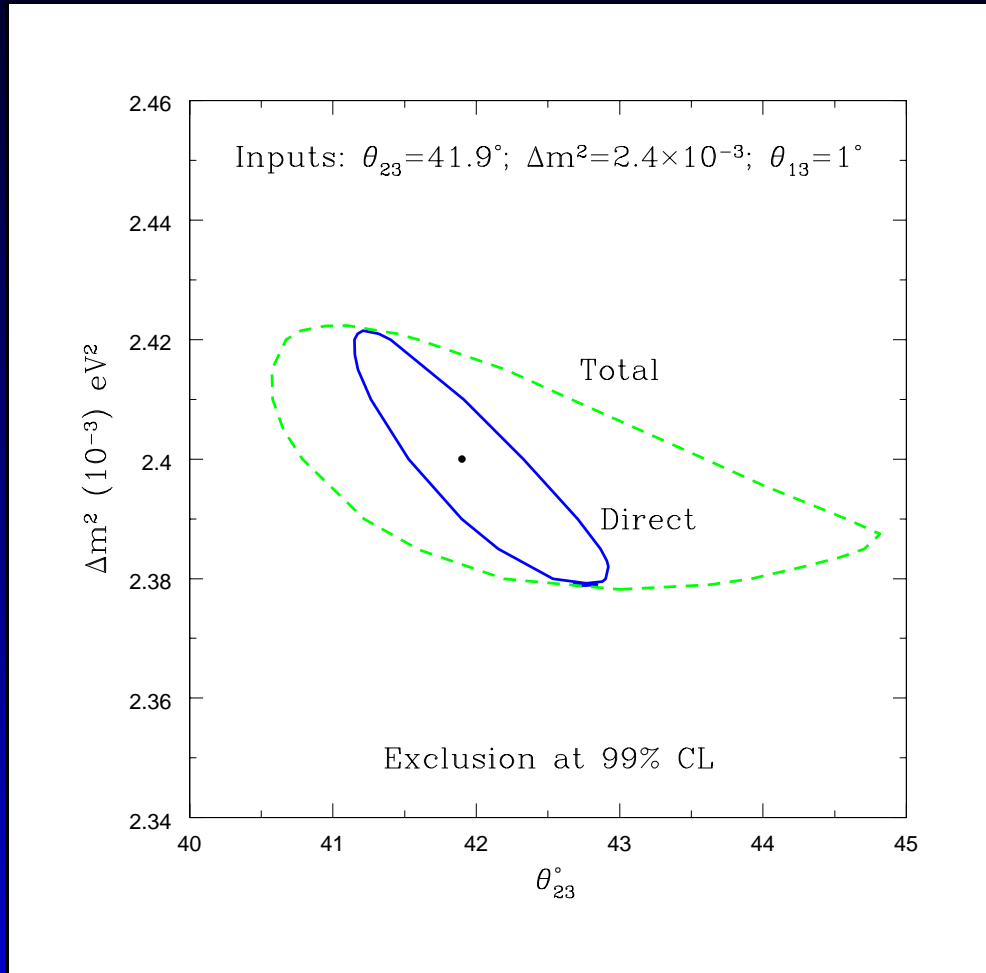
This are two high quality programs with a broad community involvement and PPEG feels that we can not add in a meaningful way by having another workshop like NuFlavour 09 this year.

Progress report

We have had input from

- S. Pascoli on the NuFlavour WS
- T. Li on the LENF
- W. Winter on staging, near detectors and NSI
- N. Sinha on tau backgrounds in the disappearance channel
- A. Donini on the silver channel
- T. Schwetz and M. Maltoni on current status of global oscillation fits
- A. DeGouvea on cLFV and connections to neutrino physics

Progress report – example



D. Indumathi, N. Sinha, arXiv:0910.2020.

Question: When will we have a detector simulation which can include things like that?

IDR – contents

- Summary of global fits, hints for θ_{13}
- Expectations for time between IDR and CDR and between CDR and start of construction
- Summary of physics case from ISS report and NuFlavour workshop
- Review of status of competition (BB,SB)
- Baseline, justification (includes NSI and standard physics) and changes
- Large θ_{13} case,
 - LENF optimization
 - LENF performance (includes NSI and standard physics)

Summary

- PPEG has produced an outstanding progress report, which is a strong foundation for the IDR.
- Main purpose of this meeting for PPEG is to get input from the other WGs about
 - imminent baseline change requests (if any, at this stage)
 - timeline for final detector parameters from the Detector WG
 - timeline for final beam parameters from the Accelerator WG
- Will there be a discussion of specific sites in the IDR? If so, by when do we know which sites?