WG1
Neutrino Oscillations

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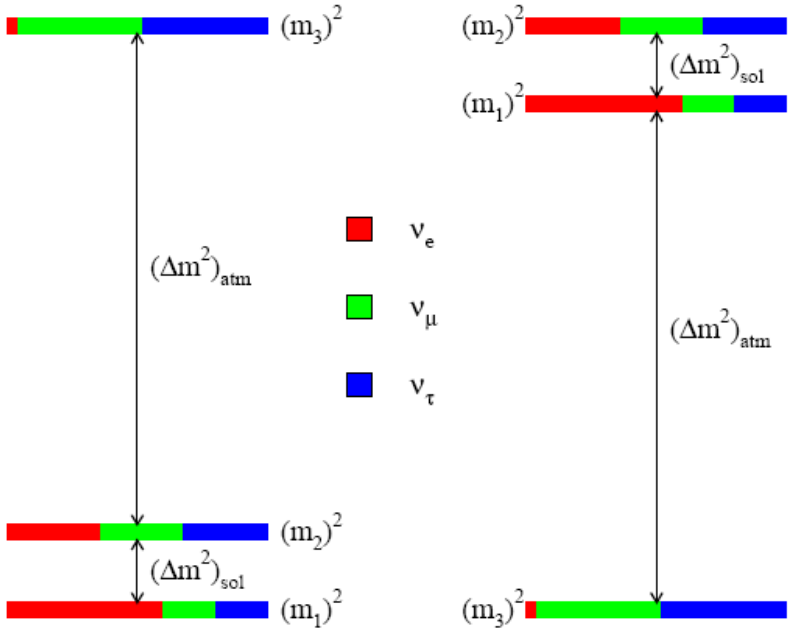
Neutrino Oscillations

$$\mathbf{U}_{PMNS} = \begin{pmatrix} \cos\theta_{12} & \sin\theta_{12} & 0 \\ -\sin\theta_{12} & \cos\theta_{12} & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} \cos\theta_{13} & 0 & \sin\theta_{13}e^{-i\delta} \\ 0 & 1 & 0 \\ -\sin\theta_{13}e^{i\delta} & 0 & \cos\theta_{13} \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 \\ 0 & \cos\theta_{23} & \sin\theta_{23} \\ 0 & -\sin\theta_{23} & \cos\theta_{23} \end{pmatrix}$$

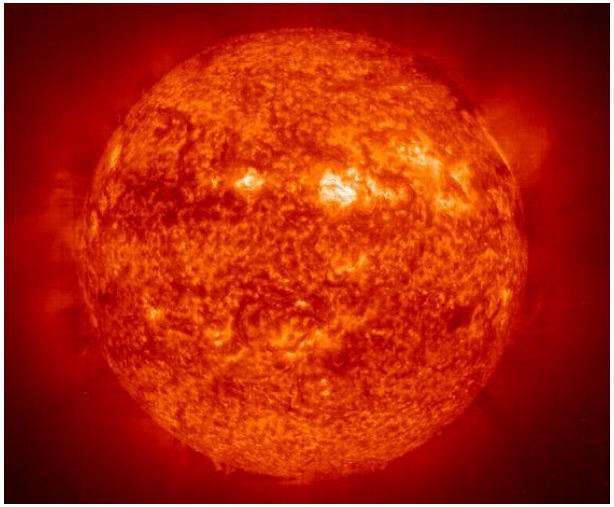
Open questions

- Value of δ_{CP}
- Mass Ordering
- Octant of θ_{23}, maximal mixing?
- Beyond PMNS physics
  - Sterile neutrinos

WG 1 sessions will look at these questions

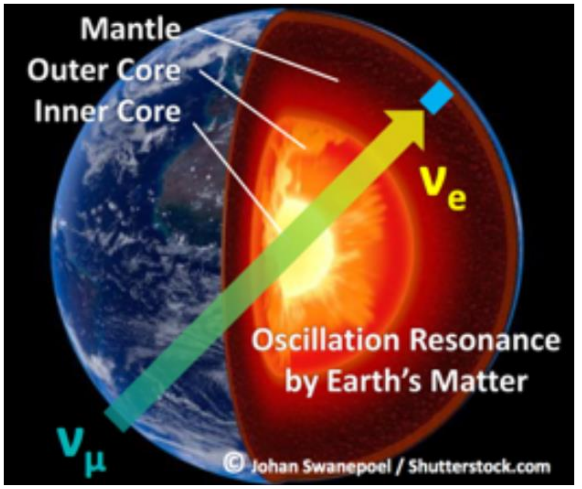


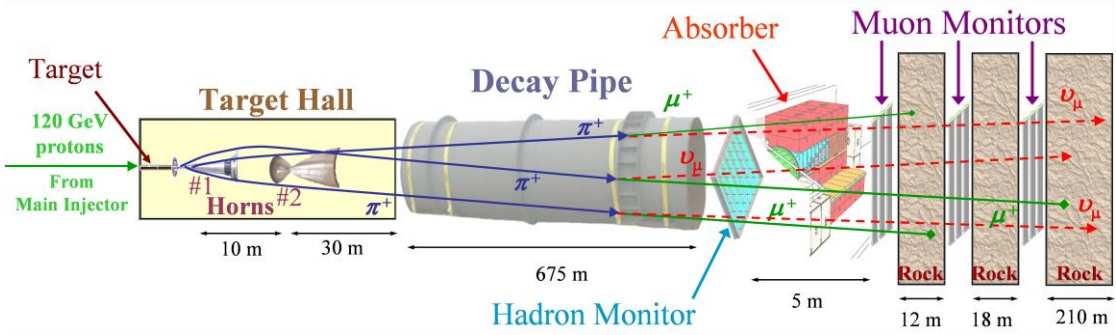
Neutrino Sources



Neutrinos from different sources are still essential.

We will hear about experiments exploiting a number of these sources.





Key Questions for WG1

Q1 What can we say about CP violation, the mass ordering and the octant? How well can we map the PMNS matrix?

- What do current experiments tell us?
- What is the pathway to the ultimate measurements with the required precision?

Q2 What are the current and future systematic limitations on these measurements and what can we do to address them?

Q3 Is there physics beyond the standard PMNS mixing model?

Plenary Talks

Tuesday		
10:00	Results and Prospects from NOvA	Jianming Bian
11:00	Results and Prospects from T2K	Stephen Dennis
11:30	Results from IceCube	Carlos Arguelles
12:00	Status and Physics of JUNO	Xuefeng Ding
Thursday		
09:50	FNAL SBL Program Status	Angela Fava
10:10	Status of T2HK	Alain Blondel
11:00	Status of DUNE	Sowjana Gollapinni
11:30	Status of ESSnuB	Marcos Dracos
Friday		
10:00	SBL Reactor Experiments	Chao Zhang
11:00	Global Neutrino Oscillation Fits	Georgia Karagiorgi

Parallel Session 1,2 Monday

Session 1		
14:00	New Results from RENO	JeeSeung Jang
14:30	Latest Results from the Daya Bay Reactor Neutrino Experiment	Gu Wenqiang
15:00	JUNO physics	Xuefeng Ding
15:30	The design and research progresses of the Central Detector in JUNO	Yuekun Heng
Session 2		
16:30	Atmospheric neutrino results from Super-Kamiokande	Christophe Bronner
16:53	Atmospheric Neutrino Oscillations with IceCube/DeepCore	Doug Cowan
17:16	Neutrino physics with KM3NeT/ORCA	Dmitry Zaborov
17:39	Final results from the OPERA experiment in the CNGS neutrino beam	Matteo Tenti

Parallel Session 3 Tuesday – With WG2

Session 3		
14:00	MINERvA Cross Section Results	Xianguo Lu
14:30	MicroBooNE Cross Section Results	Libo Jiang
15:00	FNAL SBN Status	Joseph Zennamo
15:30	CAPTAIN Results	Jorge Chaves

Parallel Session 4,5 Thursday

Session 4		
14:00	Details of the NOvA oscillation analyses	Erica Smith
14:30	Details of the T2K oscillation analyses	Davide Sgalaberna
15:00	Global analysis of neutrino oscillation experiments	Christophe Ternes
15:30	MicroBooNE Search for Low-Energy Excess Using Deep Learning Algorithms	Lauren Yates
Session 5		
16:30	DUNE Oscillation Physics	Animesh Chatterjee
16:53	Physics potential of Hyper-Kamiokande for neutrino oscillation measurements	Tetsuro Sekiguchi
17:16	Physics potential of the ESSvSB facility	Salvador Rosauro Alcaraz
17:39	Status of ProtoDUNE Experiments at CERN	Jingbo Wang

Parallel Session 6 Friday– With WG2

Session 6		
14:00	NOvA Cross Section Model / Oscillation Needs	Jeremy Wolcott
14:30	T2K Cross Section Model / Oscillation Needs	Clarence Wret
15:00	GENIE Physics Tuning	Libo Jiang
15:30	Discussion	

Parallel Session 7 Friday– With WG5

Session 7		
16:30	Sterile neutrino searches with the ICARUS detector	Yun-Tse Tsa
16:53	Sterile Neutrinos search via NC dis at NOvA	Michael Wallbank
17:16	Latest Results from MINOS+ on Sterile Neutrinos search	Jacob Todd
17:39	First Results from the PROSPECT Short Baseline Reactor Experiment	Nathaniel Bowden

Summary

We have a wide and varied programme of talks covering oscillation measurements from now and mapping the programme into the future

The plenary talks will provide an excellent overview of the current state of the field and the challenges ahead

The parallel sessions provide an excellent chance to get to know more details on the experiments and how they work in detail

- Please come along, you are welcome to attend as much or little as you wish and contribute to the discussion

Enjoy the conference!