Physics session: Introduction

Masashi Yokoyama
Department of Physics & Kavli IPMU(WPI)
The University of Tokyo

Today

Physics Potential (10:30-11:40)

time	[id] title	presenter
10:30	[29] Introduction to physics session	YOKOYAMA, Masashi
10:40	[5] HK sensitivity with T2K systematic treatment	Dr. IKEDA, Motoyasu
11:00	[7] Systematic uncertainties in long-baseline neutrino oscillation experiments	Dr. MANECKI, Szymon
11:20	[26] Near Detector Considerations	Prof. DI LODOVICO, Francesca

Physics Potential (13:20-15:10)

time	[id] title	presenter
13:20	[3] A New Proposal for a Tokai to Hyper-K Near Detector	Dr. WILKING, Michael
13:40	[21] An application of the neutrino oscillation to geophysics : Study of the Earth's core composition using atmospheric neutrino	Dr. TAKETA, Akimichi
14:00	[23] Spallation background	Dr. SHIMIZU, Itaru
14:25	[20] SRN search with HK	Dr. YANO, Takatomi
14:50	[41] Search for the spin-independently coupling WIMP captured in the Sun/the Earth in Hyper-Kamiokande	Ms. CHOI, koun

Tomorrow

Physics Potential (11:25-11:45)

time	[id] title	presenter
11:25	[28] theta_23 and delta can be measured accurately at the same time	Prof. MINAKATA, Hisakazu

Accelerator physics

- Beyond "LoI" analysis
  - θ_{23} fixed → include θ_{23} uncertainty
  - Simple syst errors → more realistic estimation
- Near detector design consideration
  - Two talks + discussion at the end of today
  - Near Detector group activation
- One theory talk tomorrow (availability of speaker)

Refine sensitivity with more realistic/detail analysis
Start real discussion of near detector design

- More topics? Sterile? Non-standard interaction? Lorentz violation? Brand-new ideas???

T2K and T2HK

- We will learn a lot from T2K, now and in future
  - The same technique
  - Capability, limitation, challenges
- We should use T2K experience for planning
  - e.g. Ikeda-san's talk (note: just for HK group internal)
  - Agreement between collaborations
    - Will be open to non-T2K people (for HK purpose)
- More interaction is important for future development
  - T2K near detector workshop planned on Sep. 29

Geo/Astro-physics

- Studying Earth's interior using atm ν
- Spallation background
- SNR sensitivity
- WIMP search from Sun/earth

Broaden science case
Feedback to detector requirements

Overburden? Coverage? Dark rate?

This meeting: Place for interaction

- Cavern, tank, water
  - Overburden? Compartment? Water quality?
- Photosensor
  - QE, coverage, or number of sensors? Dark rate?
- DAQ
  - Requirements from physics?
- Software
  - Timescale of development? How reliable?
- Calibration
  - Critical parameters to control? What precision?
- Near detector(s) and beamline

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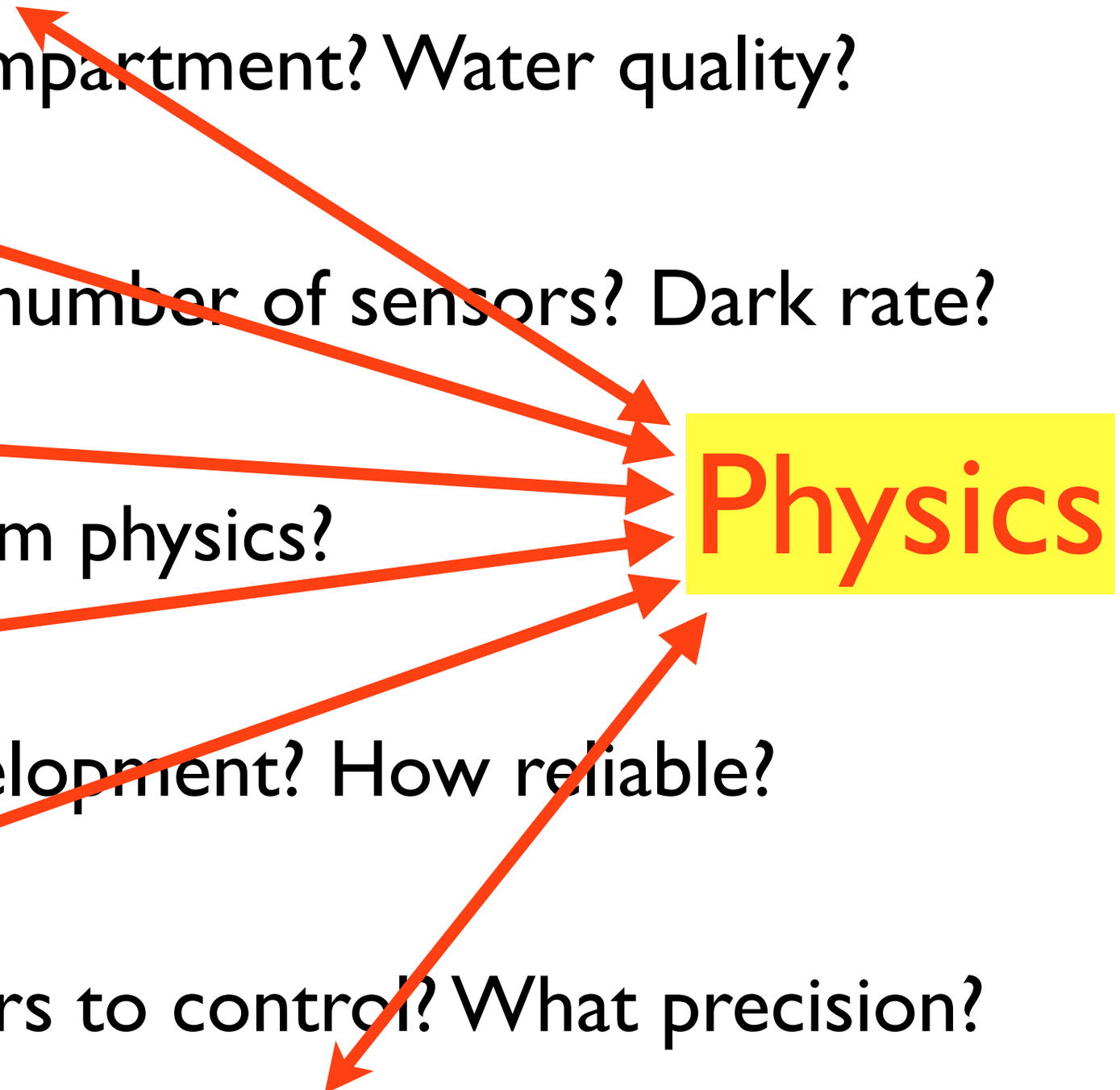

Let's enjoy physics together!