

# Request to join MICE collaboration from MOMENT (IHEP and Sichuan Uni.)

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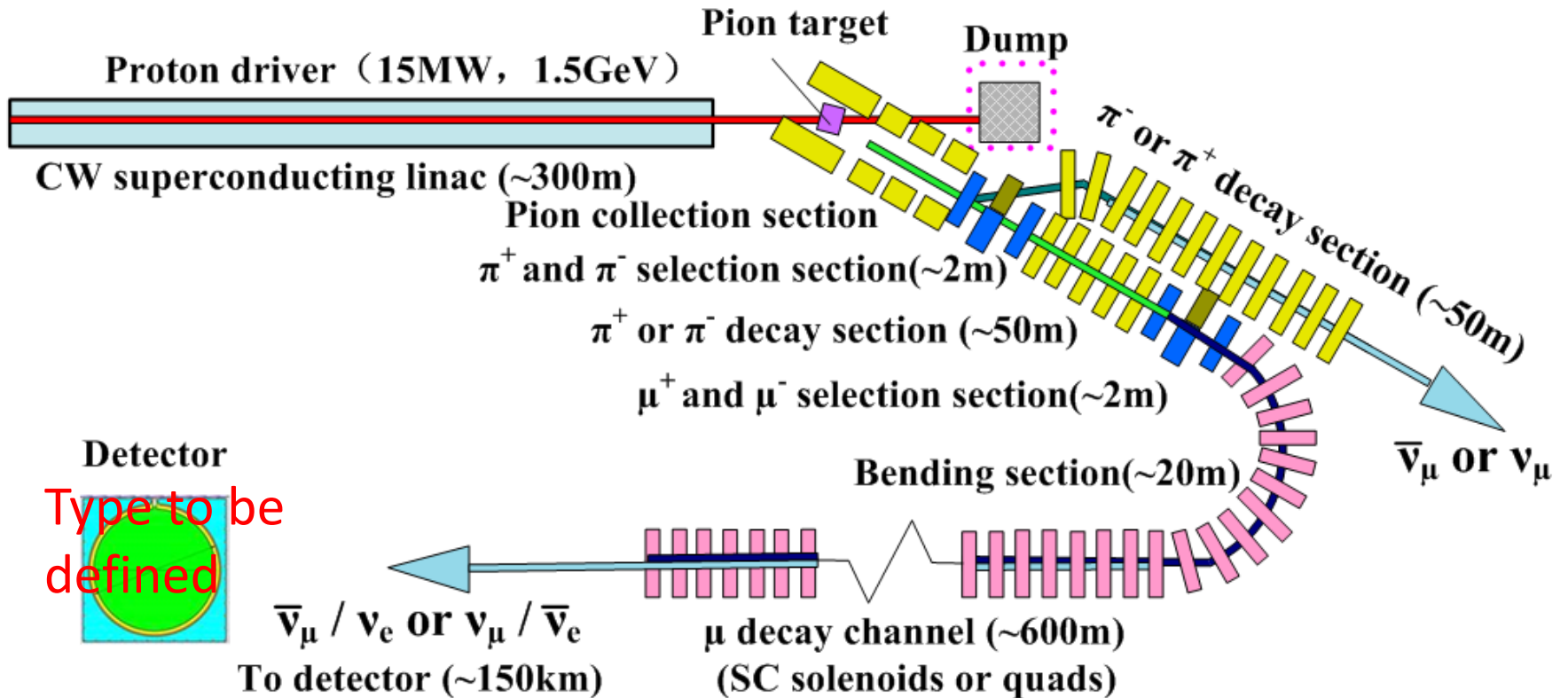
# Neutrino Experiments in China

- China started the neutrino experiment program from 2003, with IHEP as the core or driving engine
- Became a very important part of high-energy physics in China since then
- Three major steps:
  - Daya Bay experiment ([reactor](#), in operation)
  - JUNO experiment (or DYB II, [reactor](#), under construction)
  - MOMENT experiment (or DYB III, [accelerator](#), planning, long term)

# MOMENT Collaboration Study

- MOMENT: A muon-decay medium baseline neutrino beam facility
  - Using a CW proton linac as the proton driver: 15 MW (Simplified design from the China-ADS linac)
  - Fluidized target in high-field SC solenoid: collection of pions and muons
  - Muon transport and decay channel: Pure  $\mu^+$  or  $\mu^-$  decay
  - High neutrino flux at a detector of  $>50$  km
  - For leptonic CP violation measurements
- As a driving force to attract researchers from China to work on neutrino experiments based on accelerators

# Schematic for MOMENT



# MOMENT team

- We have formed a collaboration team which is open to all Chinese institutions and welcomes international collaborators
- Actually, the team consists of researchers and students from IHEP (Institute of High Energy Physics), IMP (Institute of Modern Physics), UCAS (U. of Chinese Academy of Sciences), IOP (Institute of Physics), and Sichuan University.
- We are working in three major study areas: accelerator (proton driver and transport decay channels), target station, and physics (detector and physics analysis)
- We are also seeking the participation in major international projects (LBNF, MICE)

# Request to join MICE collaboration

- We have interests to join the MICE collaboration
  - This is a very interesting study, and also very important for the future Neutrino Factory or Muon Collider
  - We can learn many things from international collaborations such as MICE, as we are new comers in the accelerator-based neutrino beam facilities.
  - We can show China's presence in the international community by making contributions to the major projects.
- Likely contribution
  - From the previous discussions with Ken Long, for the moment we like to send Prof. Zhihui Li of Sichuan U. and a PhD student (IHEP & USTC) to participate in the MICE experiment. They can contribute to the shifts, beam dynamics modeling, data analysis and paper or report writing. We will also see the possibility to add more persons in the future.
  - Zhihui and myself will represent Sichuan U. and IHEP in the collaboration

Thank you!