

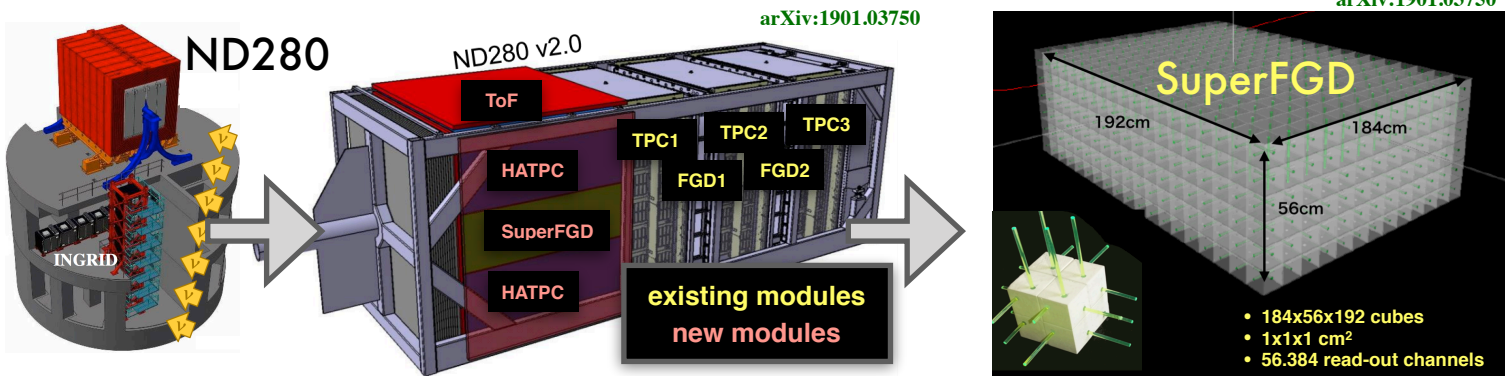
The SuperFGD prototype PID beam tests results



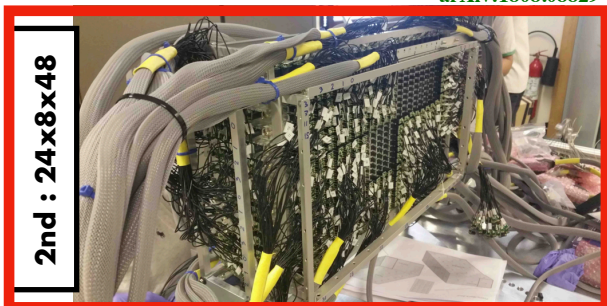
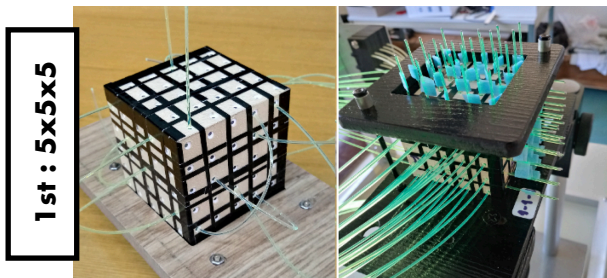
César JESÚS-VALLS cjesus@ifae.es
On behalf of the T2K Collaboration



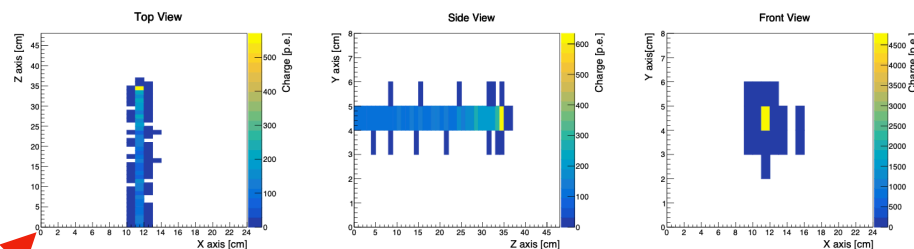
INTRODUCTION: T2K is a long-baseline neutrino-oscillations experiment. In 2022, the near detector ND280 will be upgraded including new modules, such as SuperFGD which is a novel 3D plastic scintillator concept. The goal is to better understand ν interactions and oscillations, extending our knowledge on leptonic δ_{CP} .



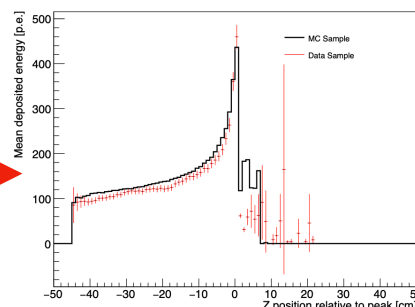
RESULTS (from 2nd prototype)



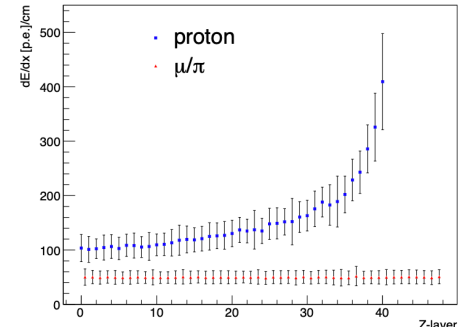
Data example of a stopping proton in the three 2D views.



data vs MC Bragg Peak



dE/dx data for μ/π vs p.



CONCLUSIONS

- ◆ 1st prototype demonstrated SuperFGD concept.
- ◆ 2nd prototype showed excellent PID capabilities with great dE/dx sensibility and time resolution.
- ◆ Detector currently under assembly, installation expected next year.
- ◆ SuperFGD neutrino data in 2023.

Identification of neutral particles (γ & n):

