How to do cool stuff when searching for Neutrinos

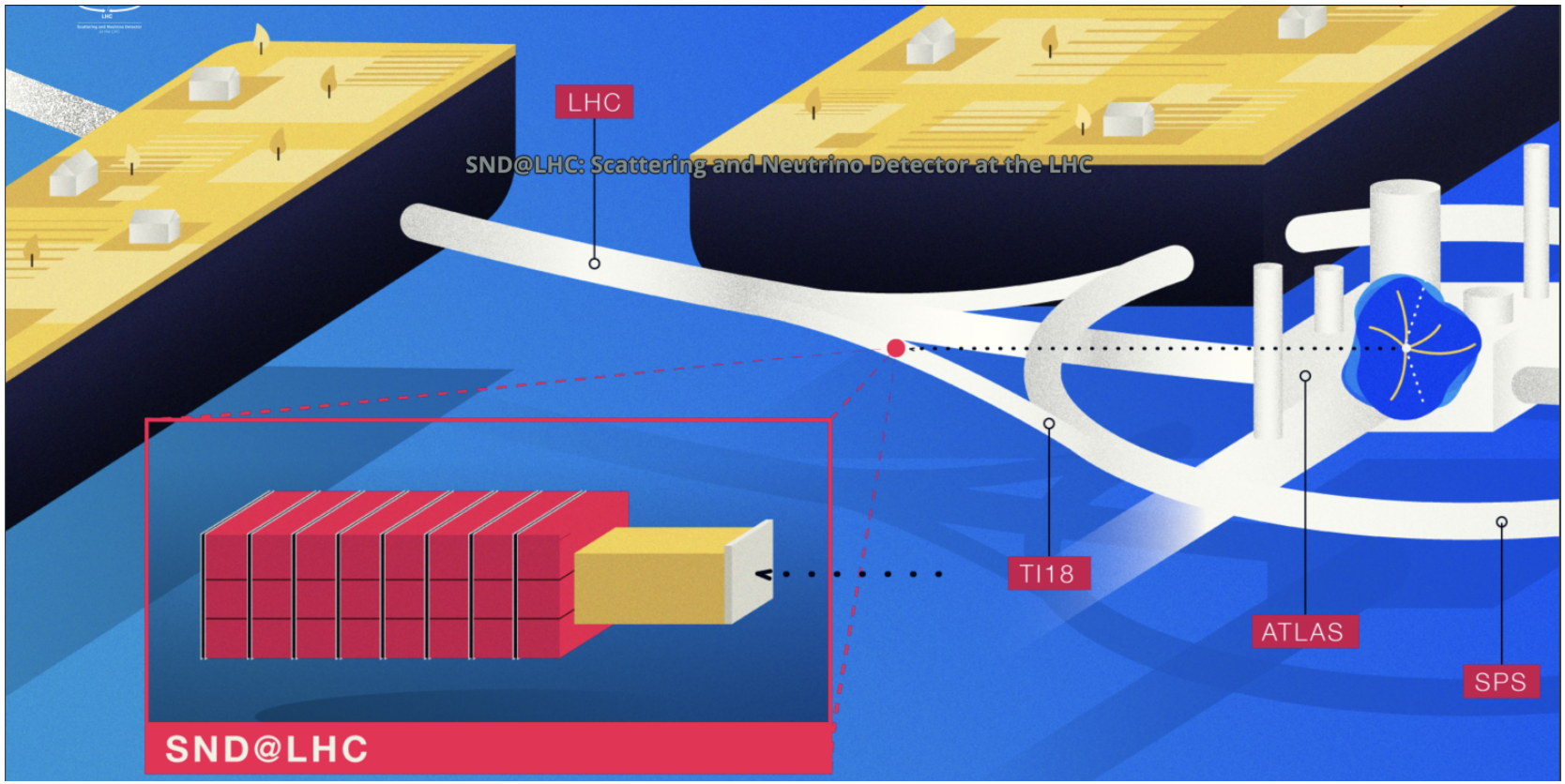
LIP Summer Internships

Guilherme Soares

2023

STEP 1 : Choosing your Experiment

- Unorthodox Experiment
- State of the Art Technology
- Small Experiment

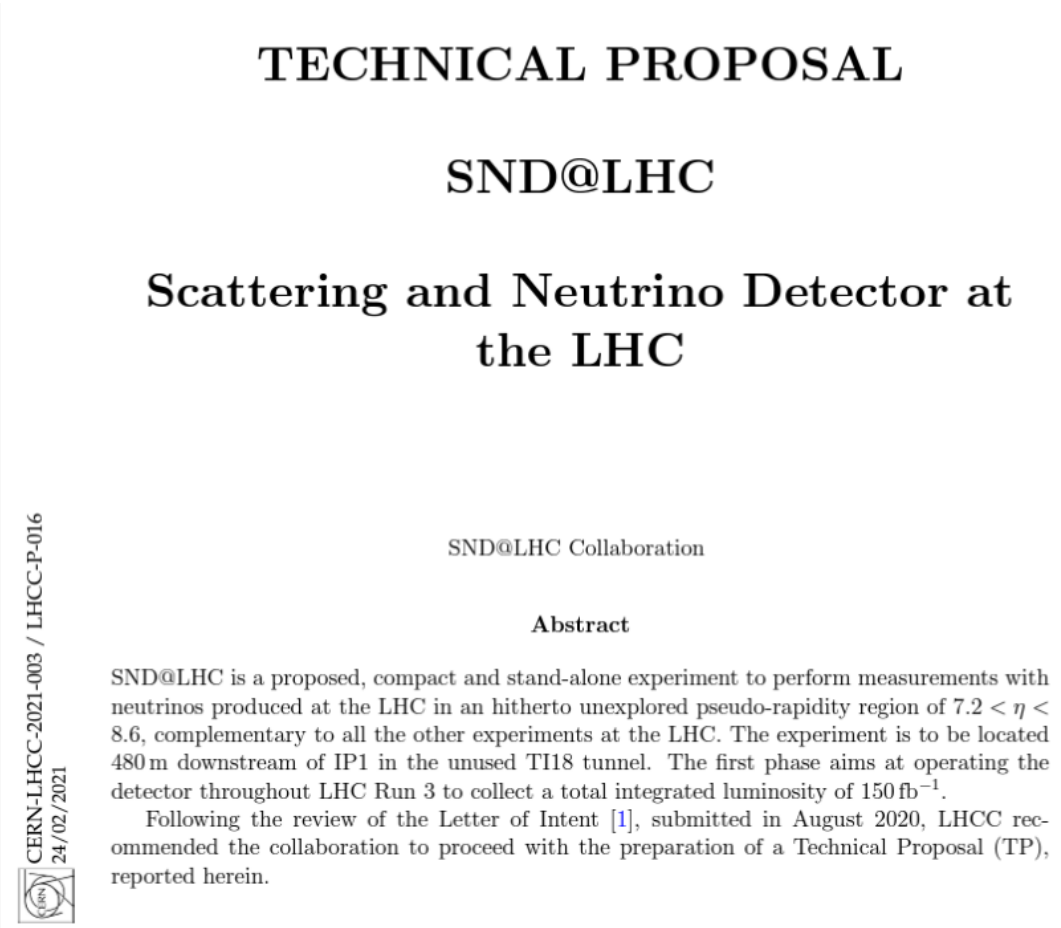


STEP 1 : Choosing your Experiment

- Unorthodox Experiment
- State of the Art Technology
- Small Experiment

STEP 2 : Pick your timing

- Beginning of the Experiment
- Tight Schedule
- Build and Test everything in under 8 months



TECHNICAL PROPOSAL

SND@LHC

Scattering and Neutrino Detector at the LHC

CERN-LHCC-2021-003 / LHCC-P-016
24/02/2021

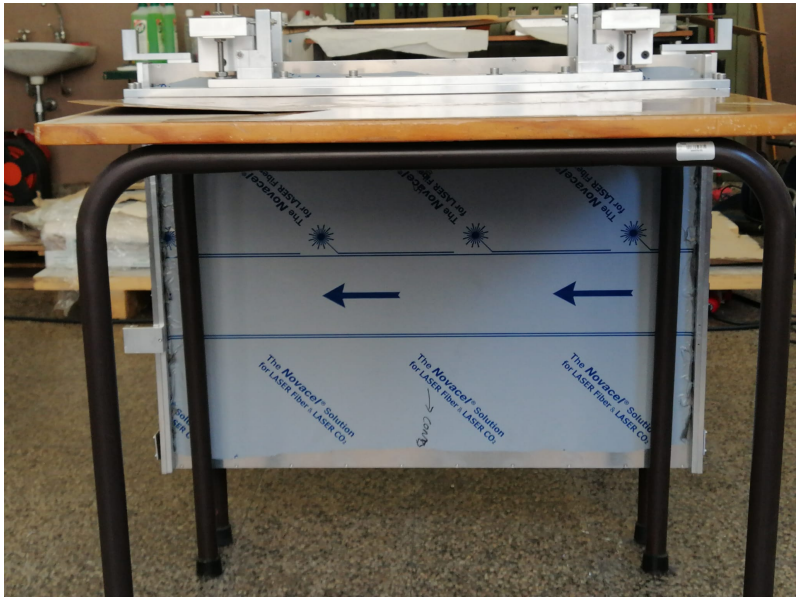
SND@LHC Collaboration

Abstract

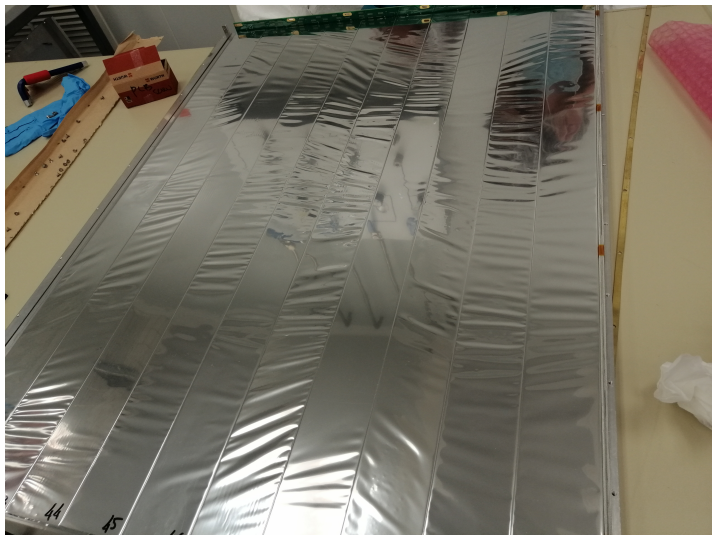
SND@LHC is a proposed, compact and stand-alone experiment to perform measurements with neutrinos produced at the LHC in an hitherto unexplored pseudo-rapidity region of $7.2 < \eta < 8.6$, complementary to all the other experiments at the LHC. The experiment is to be located 480 m downstream of IP1 in the unused TI18 tunnel. The first phase aims at operating the detector throughout LHC Run 3 to collect a total integrated luminosity of 150 fb^{-1}.

Following the review of the Letter of Intent [1], submitted in August 2020, LHCC recommended the collaboration to proceed with the preparation of a Technical Proposal (TP), reported herein.

STEP 3 : Go to CERN and enjoy building your first LHC detector !!!



STEP 3 : Go to CERN and enjoy building your first LHC detector !!!

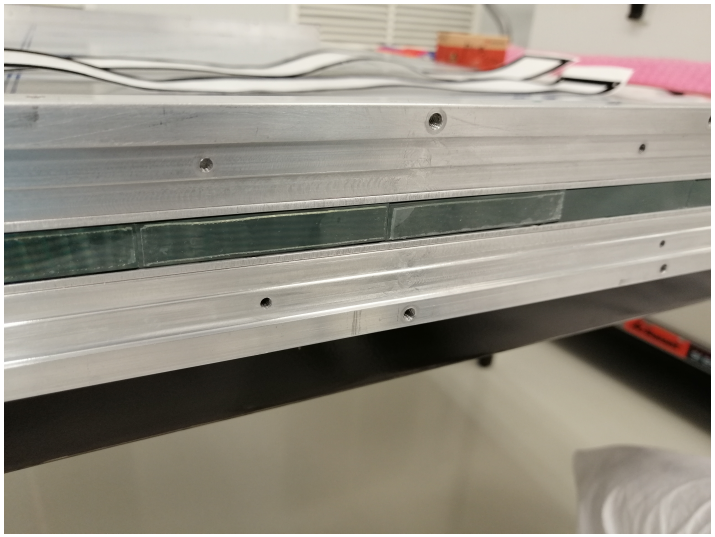


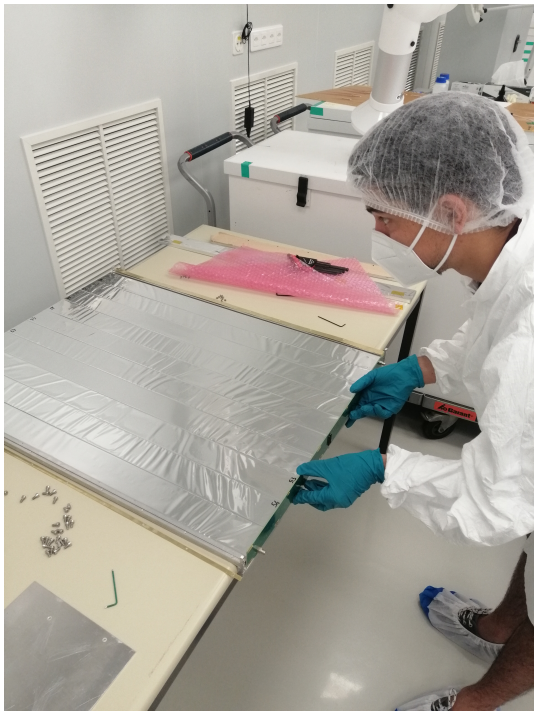
STEP 3 : Go to CERN and enjoy building your first LHC detector !!!





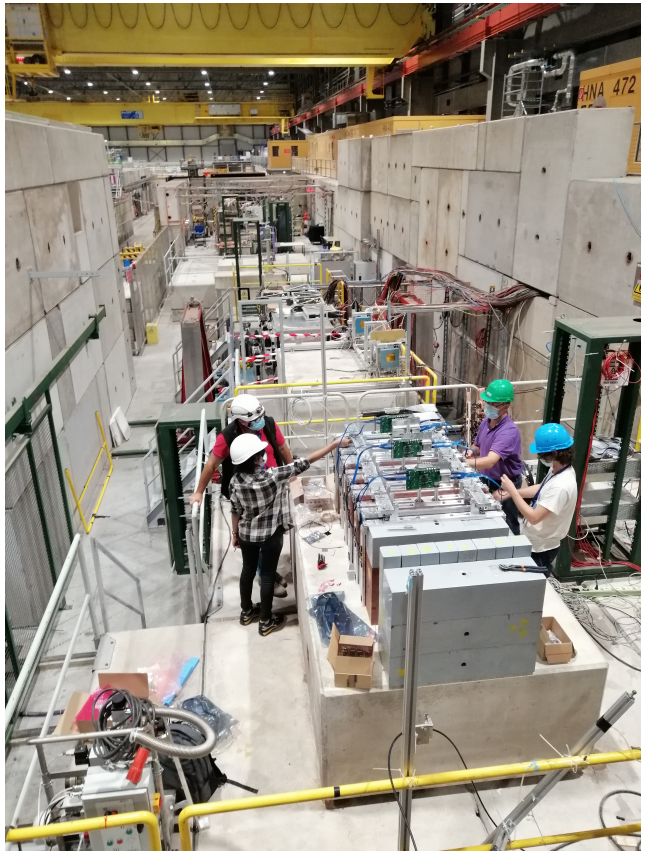
STEP 3 : Go to CERN and enjoy building your first LHC detector ! ! !



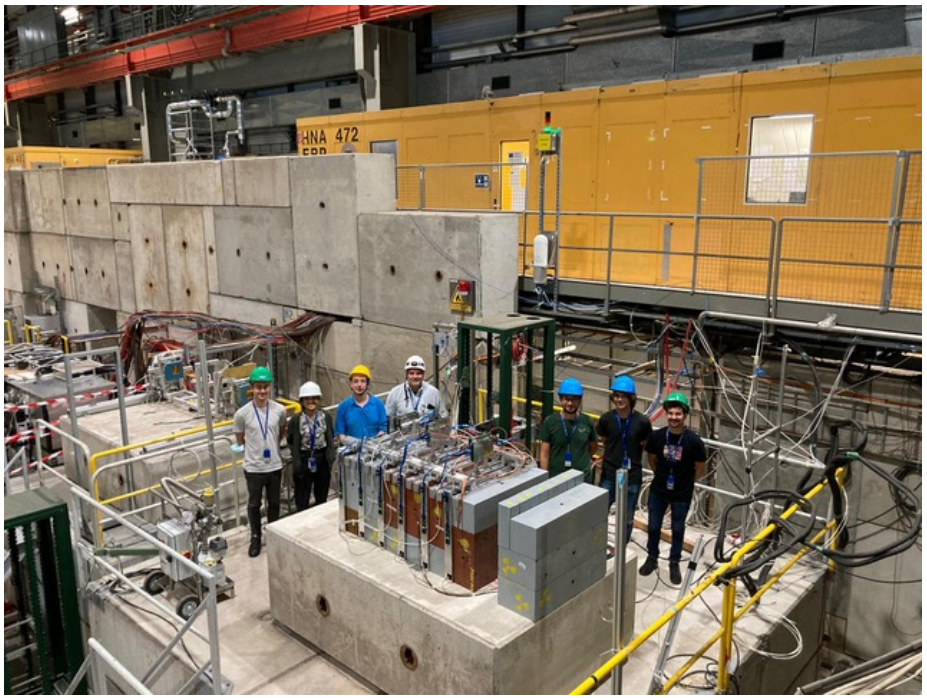


STEP 3 : Go to CERN and enjoy building your first LHC detector !!!

STEP 3 : Go to CERN and enjoy building your first LHC detector !!!



STEP 3 : Go to CERN and enjoy building your first LHC detector !!!



End Credits

Thanks

Feel free to ask any questions during the coffee break