

Highlights



- DUNE

- Installation of 2 prototype periscopes for laser calibration at ProtoDUNE-HD (CERN)
- Final part of electronics board sent for production
- Preparing paper on laser simulation
- Neutron cross-section paper submitted

- SNO+

- First reactor antineutrino detection in pure water (PRL) highlighted by Physics Magazine
- Status as CERN recognized experiment renewed
- About 1 year of stable scintillator phase data -> more physics ahead
- PhD defense of Ana Sofia Inácio, now at Oxford

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Reactor Neutrinos Detected by Water

March 1, 2023 • Physics 16, s28

Researchers have captured the signal of neutrinos from a nuclear reactor using a water-filled neutrino detector, a first for such a device.



SNO+ Collaboration

Evidence of Antineutrinos from Distant Reactors Using Pure Water at SNO+
A. Allega et al. (The SNO+ Collaboration)
Phys. Rev. Lett. 130, 091801 (2023)
Published March 1, 2023

Recent Articles

A Cleaner Route to Steel Production
Researchers have investigated how pores in a solid change its chemical reactions with other materials. The result could make steel production more environmentally friendly.

A New Card up Graphene's Sleeve
Graphene is found to exhibit a magnetoresistance dwarfing that of all known materials at room

Neutrino Physics Group @ LIP

- Current funding:
 - CERN fund DUNE grant 90k€ (2yr)
 - PTDC SNO+ grant 230 k€ (3 yr)
- Personnel news
 - Cristóvão Vilela, new researcher (also SND)
 - New MSc and Phd Students started 2022
 - New undergrad students
- Key coordination roles
 - SNO+: Analysis coordination, backgrounds (VL), water phase analysis (NB); antineutrino phys. (SA); Source Review, Exec. Comm. (JM)
 - DUNE: Calibration and Cryogenic Instrumentation Consortium, EB (JM)
- SWOT
 - S: key contributions and coordination positions, leveraging on high standards of LIP workshop and det. lab
 - O: taking data in SNO+, reactor and solar neutrino physics; ties to LANL and CERN via ProtoDUNE
 - W: need to add analysis topics in DUNE
 - T: delays in SNO+ and DUNE, DUNE calibration funding not secure yet