

# SuperChooz Pathfinder

Saturday 20 July 2024 17:45 (15 minutes)

The potential for a new Europe-based flagship neutrino experiment opens with dismantling the **EDF Chooz-A** nuclear reactor complex (up to 50,000m<sup>3</sup> of underground volume) hosting the **SuperChooz** experiment. The new site is ~1km from the N4-nuclear reactors of the **EDF Chooz-B**. This shallow location is expected to be possible thanks to the novel **LiquidO** technology, heralding the detection of both reactor and solar neutrinos with unprecedented active background rejection. The physics programme encompasses some of the world's most precise measurements (i.e.  $\theta_{13} \otimes \Delta m^2$  and  $\theta_{12} \otimes \delta m^2$ ) while probing, with unique discovery potential, a few of the most insightful building-block symmetries of the *Standard Model*. In late 2022, CNRS+EDF agreed on the technical feasibility study, called the "SuperChooz Pathfinder" era, where the **AntiMatter-OTech** project, funded by the EU-EIC and UKRI, provides technological demonstrator and physics explorations, as led by the **CLOUD** collaboration.

## Alternate track

1. Beyond the Standard Model

## I read the instructions above

Yes

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