



Contribution ID: 2238 Contribution code: SUPC029

Type: **Poster Presentation**

## Background mitigation concepts for Super-NaNu

*Sunday, 19 May 2024 16:00 (2 hours)*

Super-NaNu is a proposed neutrino experiment as part of the SHADOWS proposal for the high intensity facility ECN3 in CERN's North Area. It aims to detect neutrino interactions downstream of a beam-dump that is penetrated with a 400 GeV high intensity proton beam from the SPS. The experiment would run in parallel to the HIKE and SHADOWS experiments, taking data with an emulsion detector. Simulations show that various combinations of muon backgrounds pose the major limiting component for NaNu operation. As muons will leave tracks in the emulsion detector, their flux at the detector location is directly correlated to the frequency of emulsion exchange and therefore with the cost of the experiment. Finding ways of mitigating the muon background as much as possible is therefore essential. In this paper, we present a possible mitigation strategy for muon backgrounds.

### Footnotes

### Funding Agency

### Paper preparation format

LaTeX

### Region represented

Europe

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**Session Classification:** Student Poster Session

**Track Classification:** MC1: Colliders and other Particle and Nuclear and Physics Accelerators:  
MC1.A25 Beyond Colliders