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The cosmogenic background rejection of the ICARUS detector at Fermilab.

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The Short Baseline Neutrino Program at Fermilab aims to confirm or rule out the existence of sterile neutrinos at the eV mass scale. The program will perform the most sensitive search in both electron-neutrino appearance and muon-neutrino disappearance channels along the Booster Neutrino Beamline. The far detector, ICARUS-T600, is a high-granularity Liquid Argon Time Projection chamber located at 600 m from the Booster neutrino target and at shallow depth, thus exposed to a large flux of cosmic particles. In this presentation, I will talk about the Cosmic Ray Tagger system performance during the first physics run of the ICARUS detector. I will also present the ICARUS cosmogenic background rejection achieved exploiting the timing synchronization of the external Cosmic Ray tagger system and the scintillation light Photon-Detection System inside the liquid argon volume.

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