

CERN TH Colloquium - Fluxes and Interactions of Reactor Neutrinos

Wednesday, 19 January 2022 14:00 (1 hour)

Neutrinos were discovered using a nuclear reactor as a source and since then much of our knowledge about neutrinos comes from experiments using reactors. I will briefly touch on the history of the use of reactors as neutrino source and motivate why they still play an important role today and in the future. An overview of the physics of how neutrinos are generated in reactors and how we can compute neutrino fluxes will follow. The developments of the past decade will be reviewed in particular. 2021 may have seen the resolution of one major riddle regarding the neutrino yield from uranium-235 and I will comment on this. I also will present the current status of the sterile neutrino in electron neutrino disappearance including recent gallium results. I will conclude with an outlook towards the future both for our understanding of the reactor neutrino flux and reactor neutrino measurements. I also will be touching on coherent elastic neutrino nucleus scattering at reactors.

*** note the different Zoom room: <https://cern.zoom.us/j/67346292748?pwd=ZnRkQWh0ZXVVFQTc5K256QW5NcEcrdz09>

see also <https://indico.cern.ch/event/1106148/>

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