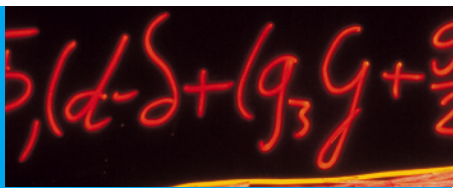
DESY
Particle and Astroparticle Physics Colloquium



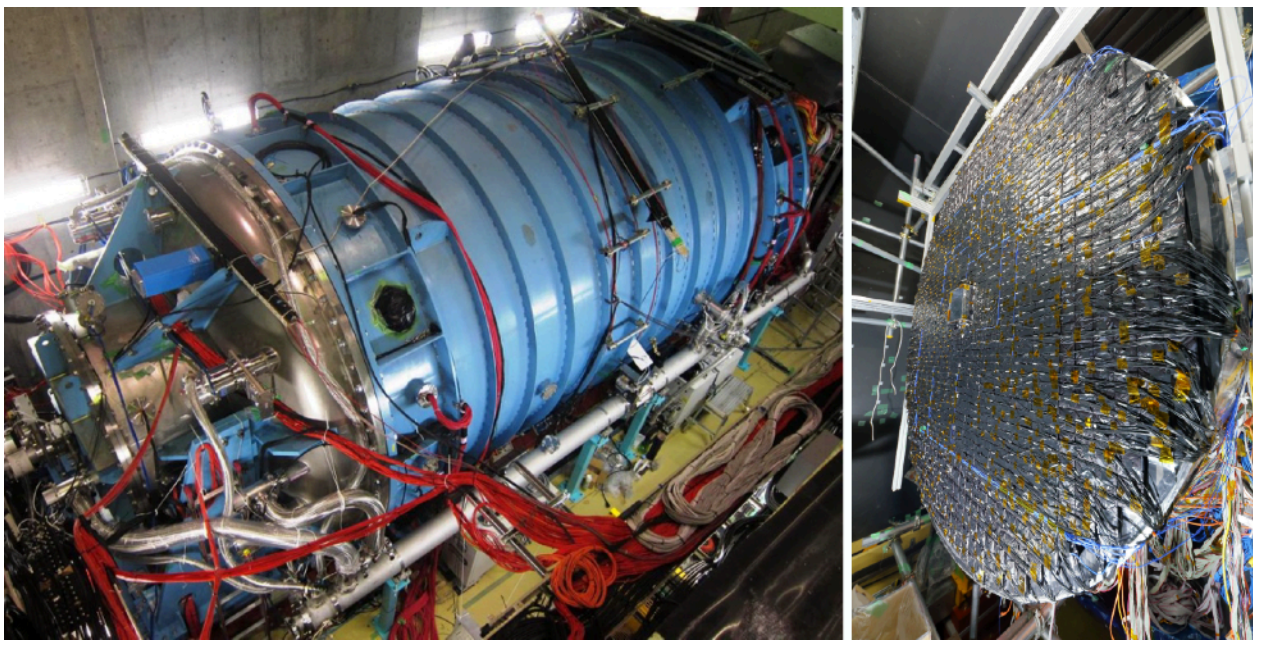
The KOTO and KOTO-II experiments to study the rare kaon decay $K_L \to \pi^0 \nu\nu$.

Tuesday, 26 March, 2024
Auditorium & Webcast 16:00 h

ZOOM webcast:
Meeting ID: 996 1652 8733
Meeting Password: 733220

Hajime Nanjo (Osaka University)

The rare kaon decay $K_L \to \pi^0\nu\nu$ is being searched for in the KOTO experiment. The decay is sensitive to new physics beyond the standard model, because the contribution from the standard model is precise and suppressed. The KOTO gives the current best upper limit of the branching ratio. I will present a new preliminary result in the analysis of data collected in 2021 which shows no candidate events in the signal region with the single event sensitivity of $8.7 \cdot 10^{-10}$, which corresponds to the new upper limit of $2 \cdot 10^{-9}$ at the 90% CL. Furthermore, the prospects of the KOTO and the next-generation KOTO-II experiments with an overview of the kaon physics will be given.



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