



Contribution ID: 21

Type: **Regular Talk** (15'+5')

## Searching for light long-lived neutralinos at Super-Kamiokande

*Thursday 2 December 2021 16:50 (20 minutes)*

Cherenkov neutrino detectors offer a powerful tool to study long-lived particles that are produced in the decay of mesons from atmospheric showers. In this talk, we explain this approach by considering the lightest neutralino in the context of R parity violating (RPV) supersymmetry, and show how to use Super-Kamiokande atmospheric neutrino data to place constraints on the parameter space of the RPV sector. We demonstrate that for the parameters involved in the production of neutralinos from the decays of kaons and D-mesons, these searches can probe regions of the parameter space that have not been excluded by searches in collider or beam dump experiments.

**Authors:** Mr CANDIA, Pablo (The University of Manchester); COTTIN, Giovanna (Universidad Adolfo Ibañez); Mr MÉNDEZ, Andrés (Pontificia Universidad Católica de Chile); MUÑOZ, Víctor (IFIC, UV)

**Presenter:** Mr CANDIA, Pablo (The University of Manchester)

**Session Classification:** Neutrinos - Theory

**Track Classification:** Neutrinos - Theory