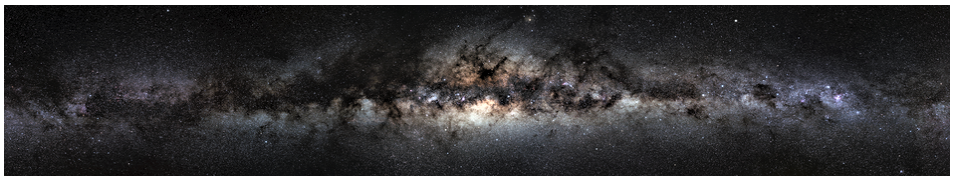

Contribution ID: **47** Type: **Oral**

# Dark Matter Searches and NSI Search with Super-Kamiokande

*Tuesday, 7 December 2021 12:32 (18 minutes)*

By looking for an excess of neutrinos in the direction of the Galactic center, Sun or Earth above the atmospheric neutrino background, WIMP hypothesis is tested. Thanks to the accurate characterization of the atmospheric neutrinos, competitive sensitivity to light WIMPs with masses down to 1 GeV is achieved. Furthermore, some scenarios predict boosted DM that can be directly detected in the neutrino experiments via DM-electron scattering. In this talk, the latest results of the indirect and direct dark matter searches using the Super-Kamiokande (SK) data collected during the SK-I - IV period will be presented. The precise measurement of atmospheric neutrino flux also allows to probe the subdominant effects induced by new physics. The resent Nonstandard interaction (NSI) study using 5326 days of SK atmospheric neutrino data will be presented.

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**Session Classification:** Parallel 2: Neutrinos