



Contribution ID: 241

Type: **Contributed Oral**

Baryon number violating nucleon decay with a light scalar in effective field theories

Monday 1 December 2025 14:45 (15 minutes)

Baryon number violating (BNV) nucleon decays can serve as an interesting probe to physics beyond the Standard Model, especially in upcoming experiments with increased sensitivity. We investigate such decays using effective field theories and present relevant BNV operators at leading order in a low energy effective field theory framework extended with a light scalar. We derive current experimental constraints on associated Wilson coefficients and decay modes, as well as project sensitivities for future experiments. We also discuss select UV-complete models and possible connections to dark matter.

Authors: SCHMIDT, Michael (UNSW Sydney); ZHANG, Weihang (UNSW Sydney); MA, Xiao-Dong (South China Normal University)

Presenter: ZHANG, Weihang (UNSW Sydney)

Session Classification: Theoretical Physics

Track Classification: Topical Groups: Theoretical Physics