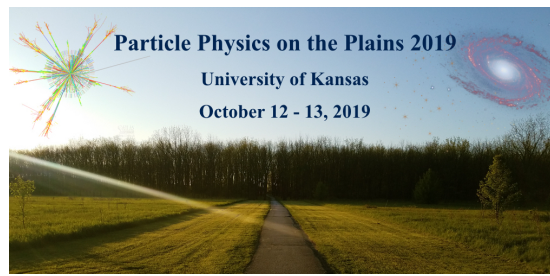


## Particle Physics on the Plains 2019



Contribution ID: 22

Type: **not specified**

# Constraining Scalar Non-Standard Interactions

*Sunday 13 October 2019 11:10 (20 minutes)*

Non-Standard Interactions (NSI) of neutrinos with matter are important to understand, as they could significantly alter the standard 3-neutrino oscillation paradigm. While vector NSI contribute as a change in the matter potential for the propagating neutrinos, scalar NSI show up as a correction to the neutrino mass matrix. In this talk, we will discuss the field-theoretic origin of scalar NSI as an effect at finite density. We will also discuss various terrestrial and space-based experimental constraints on the scalar NSI parameter space.

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**Session Classification:** Neutrinos