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Phenomenological tests of supersymmetric SO(10) grand unified theories

Wednesday, 10 April 2024 14:30 (20 minutes)

I will extend the discussion about SO(10) GUT phenomenology to the supersymmetric (SUSY) version. As the RG running is different in SUSY SO(10), the intermediate scale can be close to the GUT scale, providing a natural framework for metastable strings, which produce gravitational wave signal that is consistent with the new results from Pulsar Timing Arrays (PTAs). Moreover, the kaonic proton decay predicted by SUSY GUTs can be tested by the upcoming JUNO experiment. I will present how proton decay and gravitational wave can be used to constrain the parameters in a realistic SUSY SO(10), where the fermion mass and mixing are all considered.

Presenter: FU, Bowen (TDLI)

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