Contribution ID: **81** Type: **Poster**

Flavour bounds on the flavon of a minimal Z2×ZN symmetry

Tuesday 13 December 2022 14:00 (1 hour)

We investigate the flavour bounds on the Z2×Z5 symmetry, a minimal form of the Z2×ZN flavour symmetry, that can provide a simple set-up for the Froggatt-Nielsen mechanism. This minimal form is capable of explaining the fermionic masses and mixing pattern of the standard model including that of the neutrinos. The bounds on the parameter space of the flavon field of the Z2×Z5 symmetry are derived using the current quark and lepton flavour physics data and future projected sensitivities of quark and lepton flavour effects. The strongest bounds on the flavon of the Z2×Z5 symmetry come from the K0–K¯0 and D0–D¯0 mixing. In future phase-\rom{2} of the LHCb, the ratio of the $BR(B_d \to {}^{+-})$ and $BR(B_s \to {}^{+-})$ branching fractions, Rμμ, will be crucial in ruling out the major part of the flavon parameter space.

Session

Quark and Lepton Flavour Physics

Primary author: RESEARCH SCHOLAR, PHYSICS, IIT(BHU), NEELAM SINGH (Indian Institute of Technology, BHU, Varanasi)

Co-authors: Mr ABBAS, Gauhar (Indian Institute of Technology, BHU, Varanasi); Ms SAIN, Ria; Ms SINGH, Vartika (Indian Institute of Technology, BHU, Varanasi)

Presenter: RESEARCH SCHOLAR, PHYSICS, IIT(BHU), NEELAM SINGH (Indian Institute of Technology, BHU, Varanasi)

Session Classification: Poster - 2