Contribution ID: **39** Type: **Parallel talks**

Right handed sneutrino effect on the $b \to cl\bar{\nu}_l$ decays anomalies

Tuesday 18 July 2023 17:00 (20 minutes)

We investigate the right handed sneutrino effect, in the framework of the $B-L$ extension of Minimal Supersymmetric Standard Model with Inverse Seesaw, on $b \to cl\bar{\nu}_l$ decays anomalies which has been recently measured in the lepton-universality ratios $\mathcal{R}(\mathcal{D}^{(*)}) = \mathcal{BR}(\mathcal{B} \to \mathcal{D}^{(*)}\tau\bar{\nu}_\tau)/\mathcal{BR}(\mathcal{B} \to \mathcal{D}^{(*)}\updownarrow\bar{\nu}_\updownarrow)$ ($l = e$ or μ). Taking into account various constraints, we show that a right-handed sneutrino with light chargino and neutralino running in the lepton penguin is able to explain within 1σ the (averaged) measured values of $\mathcal{R}(\mathcal{D}^{(*)})$.

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Session Classification: Flavour physics: Theory and Experiment

Track Classification: Flavour physics: Theory and Experiment