



Contribution ID: 52

Type: **not specified**

Family Non-Universal UMSSM at the Linear Colliders

Monday, 15 March 2021 18:30 (20 minutes)

We studied phenomenological implications of numerous Family Non-Universal $U(1)'$ sub-models in the minimal $U(1)'$ extended Supersymmetric Model (UMSSM) possessing an extra down quark type exotic field. In doing this, we started with anomaly cancellation criteria to generate a number of solutions in which the extra $U(1)'$ charges of the particles are treated as free parameters. We imposed existing bounds coming from colliders and astrophysical observations on the assumed sub-models and observed that current limits dictate certain orientations.

Related with potential impact of non universal charges on the Z' decays we made predictions for the existing and future experiments. We also probe the signatures of the exotic quark and the non-universality at the future Linear Colliders.

Time Zone

Europe/Africa/Middle East

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Session Classification: PD1: Theoretical Developments

Track Classification: Physics and Detectors Tracks: PD1: Theoretical Developments