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Phenomenology of an $N=1$ split-like model resulting from the dimensional reduction of an $N=1$, 10D $E(8)$ gauge theory over a modified flag manifold

Saturday, 9 July 2022 10:00 (15 minutes)

A supersymmetric extension of the Standard Model is presented, that results from the dimensional reduction of the $N = 1$, 10D E_8 gauge group over a $M_4 \times B_0/Z_3$ space, where B_0 is the nearly-Kaehler manifold $SU(3)/U(1) \times U(1)$ and Z_3 is a freely acting discrete group on B_0 . The 4D theory -after the dimensional reduction and Wilson flux breaking- is an $N = 1$ trinification with two $U(1)$ s. Below the unification scale the surviving theory is a split-like supersymmetric version of the Standard Model with two global $U(1)$ s. At the TeV region we have a NMSSM-like model with promising phenomenology. The talk will be based on our work Phys.Lett.B 813 (2021) 136031, 2009.07059 [hep-ph] and an ongoing 2-loop analysis.

In-person participation

No

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