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Light color octet scalars in the minimal SO(10) grand unification

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We analyze the correlation between the present and foreseen limits on matter instability and the upper bounds on the mass of an intermediate-to-EW-scale color octet scalar in the minimal non-supersymmetric SO(10) grand unification. A dedicated two-loop analysis reveals a tight correlation between the octet mass and the unification scale which either requires the octet to be within the reach of the LHC or, alternatively, a proton lifetime accessible to the forthcoming megaton-scale experiments.

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