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Charge and Colour Breaking Constraints in the Minimal Supersymmetric Standard Model

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The scalar potential of the Minimal Supersymmetric Standard Model (MSSM) admits the existence of vacua with non-vanishing expectation values of electrically and colour charged fields. If such minimima are deep enough, the physical electroweak vacuum is rendered unstable by quantum tunneling. By comparing the lifetime of the electroweak vacuum with the age of the universe, the MSSM parameter space can be constrained. Furthermore, the appearance of charge and colour breaking minima associated with the stop sector is strongly correlated with the Higgs mass, which has been recently measured at the Large Hadron Collider. We carry out a metastability analysis in the stop sector of the MSSM, improving upon previous results.
We exclude parts of the parameter space allowed by the Higgs mass measurement.

APS member ID

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Primary authors: MORRISSEY, David (Harvard University); BLINOV, Nikita (TRIUMF/University of British Columbia)

Presenter: BLINOV, Nikita (TRIUMF/University of British Columbia)

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