

New precision effects from the Brout-Englert-Higgs mechanism

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Subtle, but long-known, field-theoretical aspects require a more refined treatment of gauge theories involving a Brout-Englert-Higgs effect. This refinement can be analytically done using the Fröhlich-Morchio-Strocchi mechanism. In the standard model, this leads to slight, but in principle detectable, quantitative changes in observables. For many theories beyond the standard model, the effects are more drastic, and call in to question the viability of various models. Both aspects have significant implications for future colliders.

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