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Interpreting Collider Data

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The success and discovery potential of both the Run II of the Tevatron and the LHC hinge on a very fine interplay between theoretical predictions and experimental measurements. In this talk I will illustrate by general arguments and specific examples how this applies to refining some well established areas of the Standard Model as well as to exploring uncharted areas beyond it. I will conclude by reviewing the main progress made in recent years towards the interpretation of collider data and highlight some of the ongoing developments.