

SEMINARIO DEL DEPARTAMENTO DE FÍSICA TEÓRICA

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CDF: is there Beauty beyond the Standard Model?

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Abstract: Discrepancies between theory and measurements of lower-energy quantities may reveal virtual contributions of non-standard model (SM) particles prior to their direct observation at the Large Hadron Collider. Historically, this "indirect" approach has been rewarding, especially in the quark-flavor sector. The CDF experiment at the Tevatron proton-antiproton collider has access to the world's largest samples of charm and beauty hadrons, which provide rich experimental information competitive and complementary to that from dedicated flavour facilities. This successful program has now reached its maturity and challenges the SM, even though only less than half of the data expected by the end of Run II has been analyzed. I review recent CDF flavor physics results, focusing on those that hint at (or are more sensitive to) departures from the SM: the CP-violating phase in B_s mixing, rare decays and CP violation in charmless B decays.