

XVth Quark Confinement and the Hadron Spectrum



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Hadronic Molecule Effective Field Theory for T_{cc}^+

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The T_{cc}^+ is a doubly charmed tetraquark that lies very close to the $D^* D$ meson thresholds. As such it can be described as a molecular bound state in an effective field theory (EFT) of heavy mesons. An EFT calculation of the width is in excellent agreement with experiment and also successfully reproduces the invariant mass spectrum of the D mesons in the three body decays of the T_{cc}^+ . This latter observable is particularly sensitive to the molecular nature of the T_{cc}^+ . An NLO calculation in EFT continues to be in excellent agreement with experiment and leading sources of uncertainty are sensitive to scattering properties of D mesons.

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