

What can we learn from the width of the T_{cc}^+ tetraquark?

Tuesday, September 14, 2021 2:00 PM (20 minutes)

The width of the T_{cc}^+ tetraquark (dimeson) is expected to differ considerably from the widths of its constituent D^{*0} and D^{*+} . Unfortunately, reliable values of the D^{*0} and T_{cc}^+ widths are not yet known and at least theoretical estimates would be welcome. An interesting effect is due to the charge splitting of the $(D^{*+})D^0$ and $(D^{*0})D^+$ thresholds,

therefore T_{cc}^+ will not have a pure isospin coupling

$T_{cc}^+ = [(D^{*+})D^0 - (D^{*0})D^+]/\sqrt{2}$ and the actual composition may be seen in branching ratios. The width of T_{cc}^+ may depend strongly on threshold effects since its energy is not discrete and its peak extends beyond the lowest threshold, making it partially unstable and therefore broader. I shall try to estimate some of these effects.

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