

$T_{cc}(3875)^+$
------------------

$$I(J^P) = ?(??)$$

NODE=M265

## OMITTED FROM SUMMARY TABLE

Observed with large significance by AAIJ 22E in the doubly-charmed (C = 2) decay mode  $D^0 D^0 \pi^+$  using inclusive  $pp$  collisions at 7, 8, and 13 TeV.

NODE=M265

 **$T_{cc}(3875)^+$  MASS**

NODE=M265M

OUR FIT value comes from the measurement of  $m_{T_{cc}^+} - (m_{D^{*+}} + m_{D^0})$  below and  $m_{D^{*+}} + m_{D^0}$  values.

NODE=M265M

VALUE (MeV)

DOCUMENT ID

NODE=M265M

 **$3874.83 \pm 0.11$  OUR FIT** **$m_{T_{cc}^+} - (m_{D^{*+}} + m_{D^0})$** NODE=M265DM  
NODE=M265DM

VALUE (MeV)

EVTS

DOCUMENT ID

TECN

COMMENT

 **$= 0.27 \pm 0.06$  OUR FIT** **$= 0.273 \pm 0.061^{+0.012}_{-0.015}$** 

117

1 AAIJ

22E

LHCB

 $pp \rightarrow D^0 D^0 \pi^+ X$ 

<sup>1</sup> The fit assumes a relativistic  $P$ -wave Breit Wigner function modified by Blatt-Weisskopf form factor with radius  $3.5 \text{ GeV}^{-1}$ . The significance for  $m_{T_{cc}^+} - (m_{D^{*+}} + m_{D^0}) < 0$  is  $4.3 \sigma$ .

NODE=M265DM;LINKAGE=A

 **$T_{cc}(3875)^+$  WIDTH**

NODE=M265W

VALUE (MeV)

EVTS

DOCUMENT ID

TECN

COMMENT

NODE=M265W

 **$0.410 \pm 0.165^{+0.047}_{-0.057}$** 

117

1 AAIJ

22E

LHCB

 $pp \rightarrow D^0 D^0 \pi^+ X$ 

<sup>1</sup> The fit assumes a relativistic  $P$ -wave Breit Wigner function modified by Blatt-Weisskopf form factor with radius  $3.5 \text{ GeV}^{-1}$ .

NODE=M265W;LINKAGE=A

 **$T_{cc}(3875)^+$  DECAY MODES**

NODE=M265215;NODE=M265

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad D^0 D^0 \pi^+$	seen

DESIG=1

 **$T_{cc}(3875)^+$  BRANCHING RATIOS**

NODE=M265225

$\Gamma(D^0 D^0 \pi^+)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$			
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
seen	117	AAIJ	22E LHCB	$pp \rightarrow D^0 D^0 \pi^+ X$

NODE=M265R01  
NODE=M265R01 **$T_{cc}(3875)^+$  REFERENCES**

NODE=M265

AAIJ

22E NATP 18 751

R. Aaij *et al.*

(LHCb Collab.)

REFID=61658