

Abstract Submitted  
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**Measurement of  $f_{D_s}$  Using  $D_s^+ \rightarrow \tau^+\nu$  and  $\tau^+ \rightarrow \rho^+\bar{\nu}$ <sup>1</sup>** LIMING ZHANG, Syracuse University, CLEO COLLABORATION — Using 600 pb<sup>-1</sup> of  $e^+e^-$  collision data at center-of-mass energy 4170 MeV with the CLEO-c detector, we measured the branching fraction of  $D_s^+ \rightarrow \tau^+\nu$  using the  $\tau^+ \rightarrow \rho^+\bar{\nu}$  decay mode. We determined the pseudoscalar decay constant  $f_{D_s}$  using this and the other measurements from CLEO-c and compared the result with the predictions of unquenched lattice QCD. We also present the first measurements of the branching fractions for  $D_s^+ \rightarrow K^0\pi^+\pi^0$ , and  $D_s^+ \rightarrow \pi^+\pi^0\pi^0$ , and a new measurement of the branching fraction for  $D_s^+ \rightarrow \eta\rho^+$ .

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