

Charmed meson decays at BESIII

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BESIII has collected 2.93 and 7.33 fb⁻¹ of e⁺e⁻ collision data samples at 3.773 and 4.128-4.226 GeV, which provide the largest dataset of D \bar{D} and DsDs pairs in the world, respectively.

In this talk, we will report the updated measurements of $|V_{cs}|$ in Ds⁺→tau⁺ nu and the form factor studies in Ds⁺→K⁺K⁻ e⁺ nu and pi⁺pi⁻ e⁺ nu. In addition, we will report the most updated amplitude analyses of Cabibbo-favored and -suppressed Ds decays at BESIII, including the observation of a new a₀-like state at 1.817 GeV, the branching fraction measurements of D mesons decay involving KL₀ and multiple kaons/pions, and the doubly Cabibbo-suppressed decay D₀ →K⁺pi⁻pi⁰. We will also report the improved measurement of the strong-phase difference in quantum-correlated DD decays. Finally, we will introduce prospect on measurements of charmed meson hadronic decays with the coming 20 fb⁻¹ at 3.773 GeV data collected by BESIII.

Primary author: LIU, Bei Jiang (Institute of High Energy Physics)

Co-author: SONG, Yunxuan (EPFL - Ecole Polytechnique Federale Lausanne (CH))

Presenter: SONG, Yunxuan (EPFL - Ecole Polytechnique Federale Lausanne (CH))

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