

31st International Symposium on Lepton Photon Interactions at High Energies



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Charm physics as BESIII

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BESIII has taken 2.93, 7.33, and 4.5 fb^{-1} of e^+e^- collision data at energies of 3.773, 4.128-4.226, and 4.6-4.7 GeV, collecting the world largest dataset of $D\bar{D}$, $D_s D_{s^*}$, and $\Lambda_c^+ \Lambda_c^-$ pairs. On the subject of charmed meson, we will report the updated measurements of $|V_{cs}|$ in $D_s^+ \rightarrow \tau^+ \nu$ and the form factor studies in $D_s^+ \rightarrow K^+ K^- e^+ \nu$ and $\pi^+ \pi^- e^+ \nu$. In addition, we will report the amplitude analyses of Cabibbo-favored and -suppressed D_s decays, including the observation of a new a^0 -like state at 1.817 GeV, the branching fraction measurements of D mesons decay involving K_L^0 , and the doubly Cabibbo-suppressed decay $D^0 \rightarrow K^+ \pi^- \pi^0$. We will also report the improved measurement of the strong-phase difference in quantum-correlated DD decays. On the subject of charmed baryon, we will report the form factor measurement in $\Lambda_c^+ \rightarrow \Lambda e^+ \nu$, the observation of $\Lambda_c^+ \rightarrow p K^- e^+ \nu$, and an improved measurement of $\Lambda_c^+ \rightarrow X e^+ \nu$. Moreover, we will report the amplitude analysis of $\Lambda_c^+ \rightarrow \Lambda \pi^+ \pi^0$ and the observations of Cabibbo-suppressed Λ_c^+ decays. Finally, we will present the prospect on measurements of charmed meson hadronic decays with the coming 20 fb^{-1} of data data collected at 3.773 GeV by BESIII.

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