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The hadronic decays of charmed mesons at BESIII

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BESIII has collected 20.3 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 $D_s D_s$ pairs in the world, respectively.

We will present the measurement of branching fractions of fifteen D_s^+ hadronic decays using a global fit and highlight our recent advancements in amplitude analyses of $D^+ \rightarrow K_s \pi^+ \eta$, $D \rightarrow \pi \pi \eta$, $D^+ \rightarrow K_s K_s \pi^+$, $D^+ \rightarrow K^- \pi^+ \pi^+ \pi^0$, $D_s^+ \rightarrow \pi^+ \pi^+ \pi^- \pi^0$, and $D_s^+ \rightarrow \pi^+ \pi^+ \pi^- \pi^0 \pi^0$.

In these amplitude analyses, we observe the $D^+ \rightarrow K_s a_0(980)^+$, $D \rightarrow a_0(980) \pi$, and $D_s^+ \rightarrow \omega \rho^+$ decays, along with deviations in the branching fractions of ϕ decays from the PDG average.

Secondary track

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