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Searching for $D^0\bar{D^0}$ mixing LANXING LI, MINGGANG ZHAO, Nankai University — Based on the world's largest near threshold data taken with the BESIII detector at the center of mass energy 3.773 GeV, We implement a method on searching for the $D^0\bar{D^0}$ mixing using quantum coherence between pair-produced $D^0\bar{D^0}$ in $\Psi(3770)$ decays. In this method, the doubly tagged $D^0\bar{D^0}$ events, where the $D^0\bar{D^0}$ mesons has the Quantum Coherence, are used to reconstruct the signals, which makes the biggest background in the experiment, Doubly Cabibbo Suppressed Decay process, cancel out.

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