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Preliminary Analysis of D^*-tagged $D^0 \to \pi^+\pi^-\pi^0$ Decays in Early Belle II Data[1] EMMA OXFORD, ROY BRIERE, Carnegie Mellon Univ, BELLE II COLLABORATION — The Belle II collaboration uses the asymmetric SuperKEKB collider run at the $\Upsilon(4S)$ resonance to study Standard Model and new physics at the intensity frontier. One major area of study is charge-parity violation (CPV), especially in the c-quark sector. The LHCb collaboration published the first observation of CPV in D meson decays in 2019,[2] and the search for CPV in other decay modes continues to be a major area of interest in particle physics. To that end, we will perform a Dalitz analysis of the singly Cabibbo suppressed (SCS) decay $D^0 \to \pi^+\pi^-\pi^0$, using D^*-tagged D^0 and $\overline{D}^0$ mesons. This presentation will show a preliminary analysis of this mode with 72fb^{-1} of Belle II data.

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[2]R. Aaij et al., **Phys. Rev. Lett.** 122, 211803

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