

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Production of $X(3872)$ in e^+e^- annihilation¹ KEVIN INGLES, ERIC BRAATEN, LI-PING HE, Ohio State Univ - Columbus — The $X(3872)$ can be produced in e^+e^- annihilation by the creation of $D^{*0}\bar{D}^{*0}$ from a virtual photon, followed by the rescattering of the charm mesons into $X(3872)$ and a photon. The cross section for $e^+e^- \rightarrow X(3872)\gamma$ has a narrow peak 2.2 MeV above the $D^{*0}\bar{D}^{*0}$ threshold. This peak is the result of a triangle singularity. We calculate the normalized cross section near the $D^{*0}\bar{D}^{*0}$ threshold. The calculated peak is large enough to be measured by the BESIII collaboration. The observation of this peak would provide strong evidence for the identification of the $X(3872)$ as a charm-meson molecule.

¹Funded by the Department of Energy grant no. DE-SC0011726 and National Science Foundation grant no. PHY-1607190

Kevin Ingles
Ohio State Univ - Columbus

Date submitted: 10 Jan 2020

Electronic form version 1.4