

Abstract Submitted  
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**Production of  $X(3872)$  at High Multiplicity**<sup>1</sup> KEVIN INGLES, ERIC BRAATEN, LI-PING HE, Ohio State Univ - Columbus, JUN JIANG, Shandong University — The dependence of the production of the  $X(3872)$  meson on the hadron multiplicity in  $pp$  collisions has been used as evidence against  $X$  being a charm-meson molecule. The argument is based in part on the incorrect assumption that the cross section for the breakup of  $X$  by scattering with comovers can be approximated by a geometric cross section inversely proportional to the binding energy of  $X$ . The breakup cross section should instead be approximated by the probability-weighted sum of the cross sections for the scattering of comoving pions from the charm-meson constituents of  $X$ , which is insensitive to the binding energy. A simple modification of the comover interaction model gives excellent fits to the data from the LHCb collaboration on the multiplicity dependence of the production of  $X$  and  $\psi(2S)$  using parameters compatible with  $X$  being a loosely bound charm-meson molecule.

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