Production of $X(3872)$ at High Multiplicity[1] 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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