

Abstract Submitted
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Analyzing jets emitted from Bose-Einstein condensates with insights from particle and nuclear physics. MIGUEL ARRATIA, Univ of California - Berkeley — In this talk, I will propose an explanation for some of the features of the emission of jets of atoms from stimulated Bose-Einstein condensates, discovered recently by Clark et al. [1], by using analogies with particle physics [2]. I argue that the widening and depletion of the away-side peak in the measured angular correlation function is consistent with a dijet acoplanarity of a few degrees, similar to the case of parton-parton scattering with "intrinsic k_T ". I will also show proposals for studies of collectivity in this jet phenomenon inspired in studies of the quark-gluon plasma.

[1] L.W Clark, L.W Clark et al, Collective emission of matter-wave jets from driven BoseEinstein condensates, Nature 551, 356359

[2] M. Arratia, On the jets emitted by driven Bose-Einstein condensates, <https://arxiv.org/abs/1801.05515>

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