

Abstract Submitted
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When Can Two Fermions Be Characterized as a Boson?

CHRISTINA KNAPP, Williams College Student — I am investigating when a pair of distinct fermions can be characterized as a boson. In particular I am exploring whether there exists a relationship between the level of bosonic character of the pair and the entanglement. My system is N pairs of fermions, each pair consisting of one A particle and one B particle. My measure of bosonic character is a comparison of the fermion pair creation operator with an ideal bosonic creation operator. My measure of entanglement is based on the purity. Preliminary results suggest there is a strong connection between bosonic character and entanglement.

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