

Abstract Submitted
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Interaction Corrections to Chern Numbers¹ CHENG LI, TIN-LUN HO, Ohio State Univ - Columbus — Chern numbers play a key role in many areas in physics as they describe the topology of a quantum state. Motivated by the recent experiment by Ian Spielman's group at NIST (arXiv:1610.06228) on the second Chern number C_2 of the Yang monopole, we have studied the effect of particle interaction. We show that interaction will stretch the monopole into an extended manifold of singularity, which will cause a gradual change of the second Chern number as the monopole leaves the 4D surface where C_2 is calculated. Such gradual change is in fact contained in the data of the NIST experiment.

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