

Abstract Submitted
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Odd-parity superconductivity in the vicinity of inversion symmetry breaking in spin-orbit-coupled systems¹ VLADYSLAV KOZII, LIANG FU, Massachusetts Institute of Technology, MASSACHUSETTS INSTITUTE OF TECHNOLOGY TEAM — We study superconductivity in spin-orbit-coupled systems in the vicinity of inversion symmetry breaking. We find that due to the presence of spin-orbit coupling, fluctuations of the incipient parity-breaking order generate an attractive pairing interaction in an odd-parity pairing channel, which competes with the *s*-wave pairing. We show that Coulomb repulsion or an external Zeeman field suppresses the *s*-wave pairing and promotes the odd-parity superconducting state. Our work provides a new mechanism for odd-parity pairing and opens a route to novel topological superconductivity.

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