Zernike Colloquium

October 5th, 2023
16:00h
5111.0080

Topological hybrid quantum materials

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The upcoming revolution in information technology driven by quantum computing will require a paradigm shift in the way we generate, store and process information. A crucial aspect in the development of quantum computers is the possibility to make them robust against errors. One possible avenue to implement robustness against perturbations in quantum hardwares is to use topologically protected quantum states, whose stability derives from the physical properties of the system hosting them. This triggered an enormous interest in the discovery of new materials systems capable of hosting topologically non-trivial quantum states. In my talk I will discuss the progress done so far in the investigation of topologically non-trivial superconducting states in magnet/superconductor hybrid systems. In particular, I will present the recent experimental discovery of a new type of two-dimensional superconducting state in a hybrid system consisting of an antiferromagnetic atomic layer in proximity to a conventional superconductor.

Coffee from 15:30h
Drinks & Snacks after

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