

Abstract Submitted
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Spins of Andreev states in double quantum dots ZHAOEN SU, JUN CHEN, PENG YU, University of Pittsburgh, MOIRA HOCERVAR, Institut Neel CNRS, Grenoble, SEBASTIEN PLISSARD, CNRS, LAAS, Toulouse, France, DIANA CAR, Eindhoven University of Technology, ALEXANDRE TACLA, University of Pittsburgh, ANDREW DALEY, University of Strathclyde, DAVID PEKKER, University of Pittsburgh, ERIK BAKKERS, Eindhoven University of Technology, SERGEY FROLOV, University of Pittsburgh — Andreev (or Shiba) states in coupled double quantum dots is an open field. Here we demonstrate the realization of Andreev states in double quantum dots in an InSb nanowire coupled to two NbTiN superconductors. The magnetic field dependence of the Andreev states has been explored to resolve the spins in different double dot configurations. The experiment helps to understand the interplay between pair correlation, exchange energy and charging energy with a well-controlled system. It also opens the possibility to implement Majorana modes in Kitaev chains made of such dots.

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