

Retraction Note: Quantized Majorana conductance

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In this Letter, we reported electrical measurements and numerical simulations of hybrid superconducting–semiconducting nanowires in a magnetic field. We reported plateaus in the conductance at $2e^2/h$, which we interpreted as evidence for the presence of Majorana zero-modes. However, several inconsistencies were pointed out by Sergey Frolov and Vincent Mourik between the raw measurement data that was made available to them and the figures that were published in the paper. We therefore re-analysed all the existing raw data for our original measurements and rebuilt the original experimental set-up for a re-calibration of the conductance values. We established that the data in two of the figures (Fig. 2a and Extended Data Fig. 4b) had been unnecessarily corrected for charge jumps (corrections that were not mentioned explicitly in the paper), and that one of the figure axes was mislabelled (Fig. 4b). The new conductance calibration shifted the plateau values by 8 per cent, above $2e^2/h$, which affects all the figures¹. When the data are replotted over the full parameter range, including ranges that were not made available earlier, points are outside the 2-sigma error bars. We can therefore no longer claim the observation of a quantized Majorana conductance, and wish to retract this Letter. After informing *Nature* of this decision, *Nature* issued an Editorial Expression of Concern² and initiated the retraction process. In ref.¹ we provide all the raw data underlying the published figures as well as the unpublished datasets. Ref.¹ also contains the analysis methods and a side-by-side comparison between the original and the corrected figures. In ref.³ we provide a new manuscript with corrected and extended datasets, discussed in the context of new insights on zero-energy states in systems with inhomogeneous potentials and disorder. We thank Piet Brouwer, Klaus Ensslin, David Goldhaber-Gordon and Patrick Lee for the expert evaluation report available via ref.¹. We also thank Michael Wimmer and Bernard van Heck for their help with the analyses. We apologize to the community for insufficient scientific rigour in our original manuscript.

1. Zhang, H. et al. Data repository accompanying retraction of “Quantized Majorana conductance”. <https://doi.org/10.5281/zenodo.4545577> (2021).
2. Zhang, H. et al. Editorial Expression of Concern: Quantized Majorana conductance. *Nature* **581**, E4 (2020).
3. Zhang, H. et al. Large zero-bias peaks in InSb-Al hybrid semiconductor-superconductor nanowire devices. Preprint at <https://arxiv.org/abs/2101.11456> (2021).