



復旦大學

Fudan University



復旦大學物理系物質科學報告

Physics Department Colloquium

Search for Majorana zero modes in Josephson devices constructed on Bi_2Te_3 surface

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Recently, much attention has been paid to search for Majorana fermions in solid-state systems. Among various proposals there is one based on proximity-effect-induced Josephson devices and phase-sensitive detections, in which a 4π -periodic current-phase relation is expected if Majorana fermion states exist. In this talk, I will report the observations of gap-closing caused by fully transparent quasiparticle transport and perfect Andreev reflections in single Josephson junctions as well as in radio-frequency superconducting quantum interference devices (rf-SQUIDs) constructed on the surface of three-dimensional topological insulator Bi_2Te_3 . The results support that Majorana fermions exist in these devices.

References

- [1] Y. Pang, *et al.*, arXiv:1503.00838v2.
- [2] Y. Pang, *et al.*, arXiv:1603.04540v1.

Time: 2:00pm, Tuesday, November 22, 2016

Location: Physics Building, Room 221B

(Cookies and coffee are served from 1:30 pm)