Lecture 9:

Superconducting hybrids and proximity effect

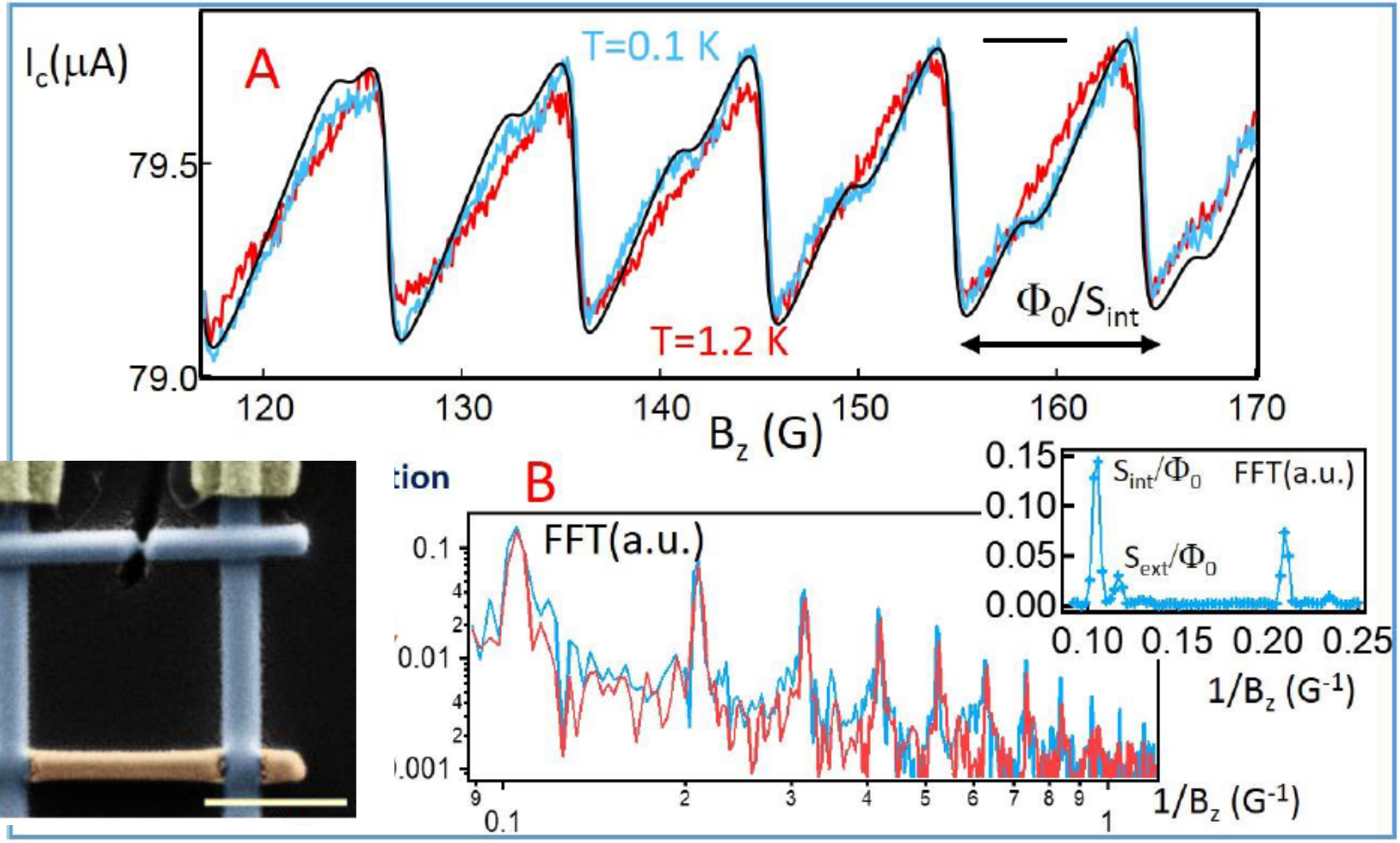
(N/S and F/S hybrids)

current –phase relation of a long ballistic junction

Ballistic edge states in Bismuth nanowires revealed by SQUID interferometry

Authors: Anil Murani[1], Alik Kasumov[1,2], Shamashis Sengupta[1], Yu.A. Kasumov[2], V.T.Volkov[2], I.I. Khodos[2], F. Brisset[3], Raphaëlle Delagrange[1], Alexei Chepelianskii[1], Richard Deblock[1], Hélène Bouchiat[1*], and Sophie Guéron[1*]

arXiv:1609.04848



DoS in a diffusive SNS junction

PRL 100, 197002 (2008) PHYSICAL REVIEW LETTERS week ending 16 MAY 2008

Phase Controlled Superconducting Proximity Effect Probed by Tunneling Spectroscopy

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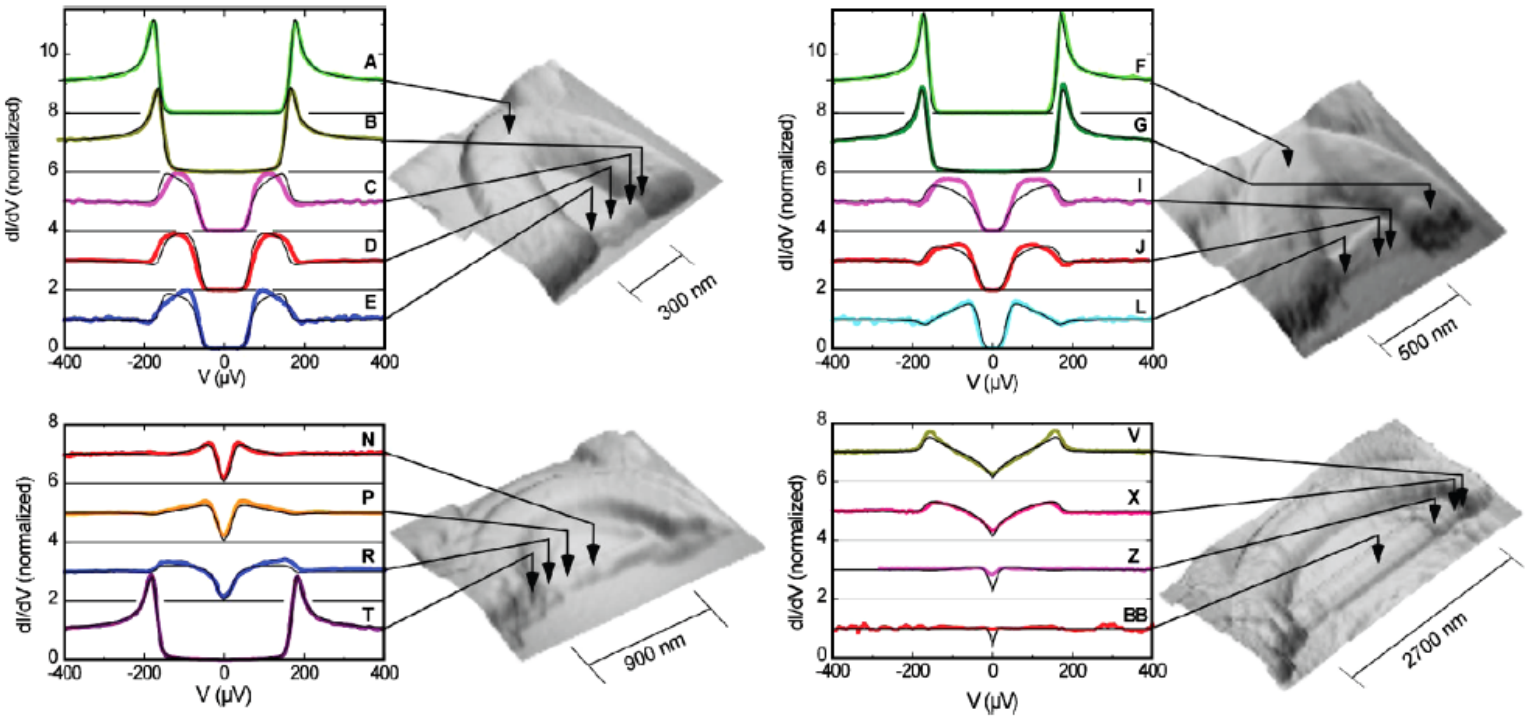
(Received 31 January 2008; published 14 May 2008)



« reflectionless tunneling »

PRL **100,** 207002 (2008) PHYSICAL REVIEW LETTERS week ending 23 MAY 2008

Andreev Current-Induced Dissipation in a Hybrid Superconducting Tunnel Junction

Sukumar Rajauria,[1] P. Gandit,[1] T. Fournier,[1] F. W. J. Hekking,[2] B. Pannetier,[1] and H. Courtois[1,3]
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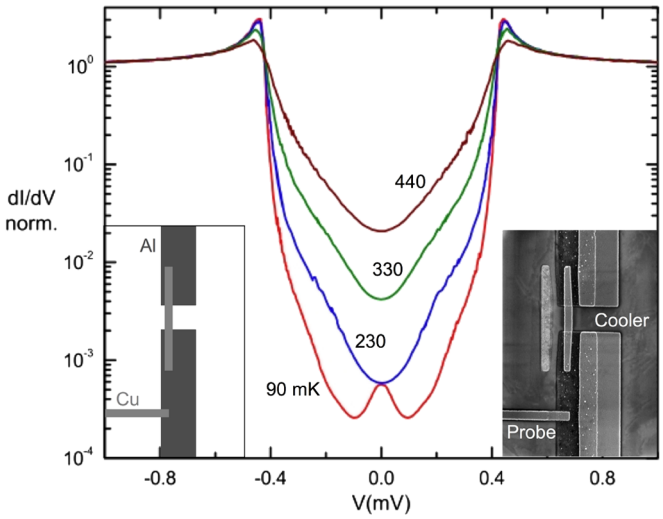
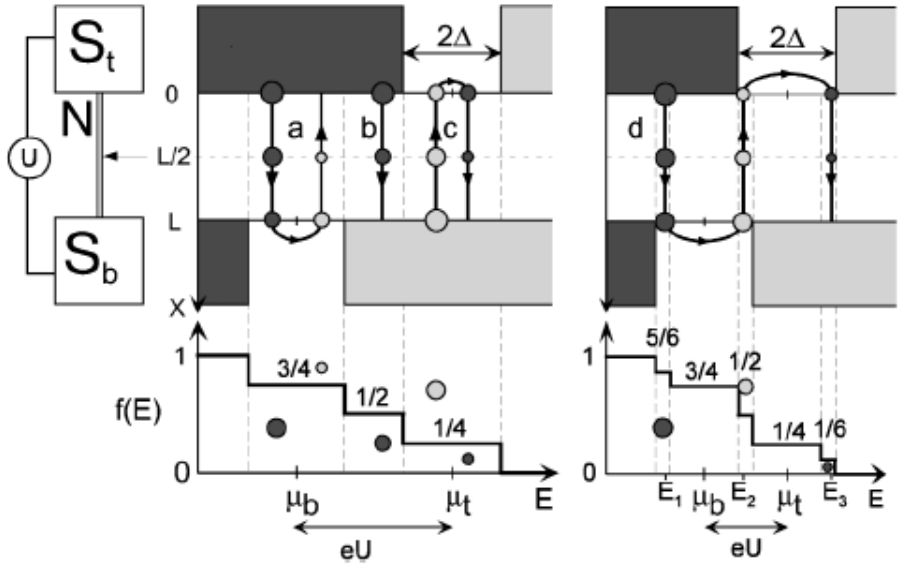


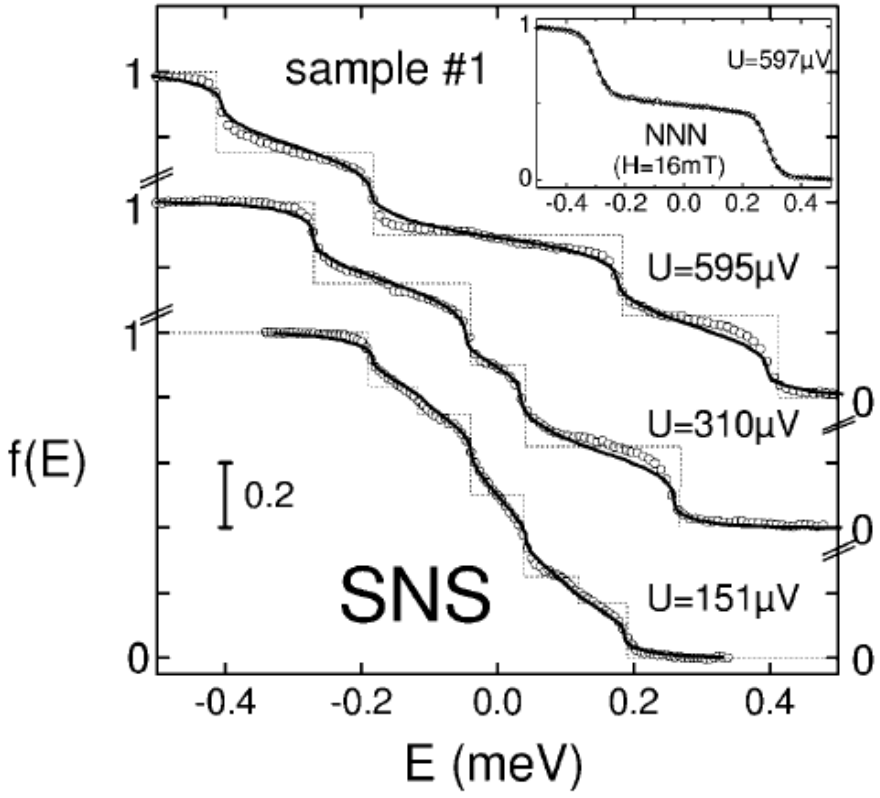
incoherent Multiple Andreev reflections

VOLUME 86, NUMBER 6 PHYSICAL REVIEW LETTERS 5 FEBRUARY 2001

Multiple Andreev Reflections Revealed by the Energy Distribution of Quasiparticles

F. Pierre, A. Anthore, H. Pothier, C. Urbina, and D. Esteve
Service de Physique de l'Etat Condensé, Commissariat à l'Energie Atomique, Saclay, F-91191 Gif-sur-Yvette Cedex, France
(Received 13 October 2000)





Out-of-equilibrium π junction

Reversing the direction of the supercurrent in a controllable Josephson junction

NATURE | VOL 397 | 7 JANUARY 1999 | www.nature.com

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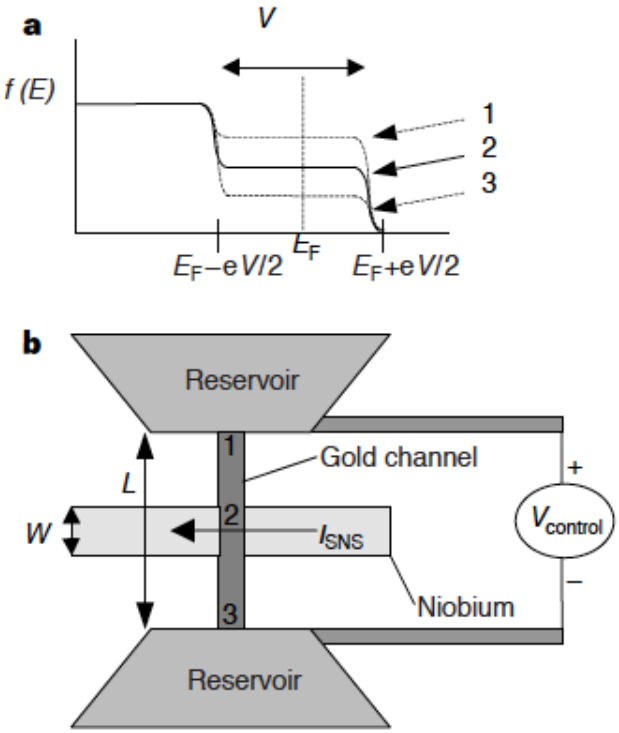

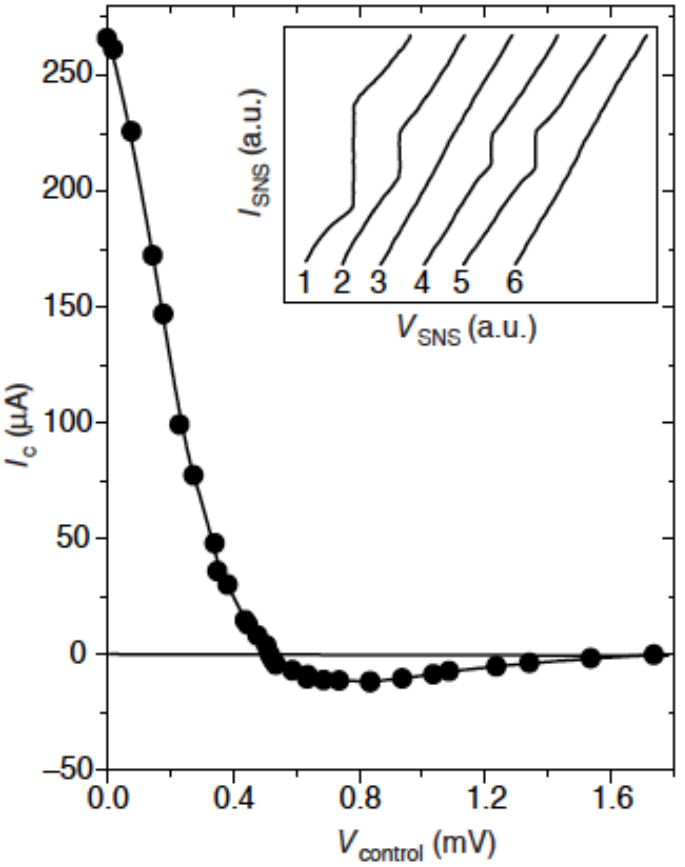

A spintronics experiment: (ferromagnetic) inverse proximity effect

COUPLING BETWEEN FERROMAGNETIC LAYERS THROUGH A SUPERCONDUCTOR

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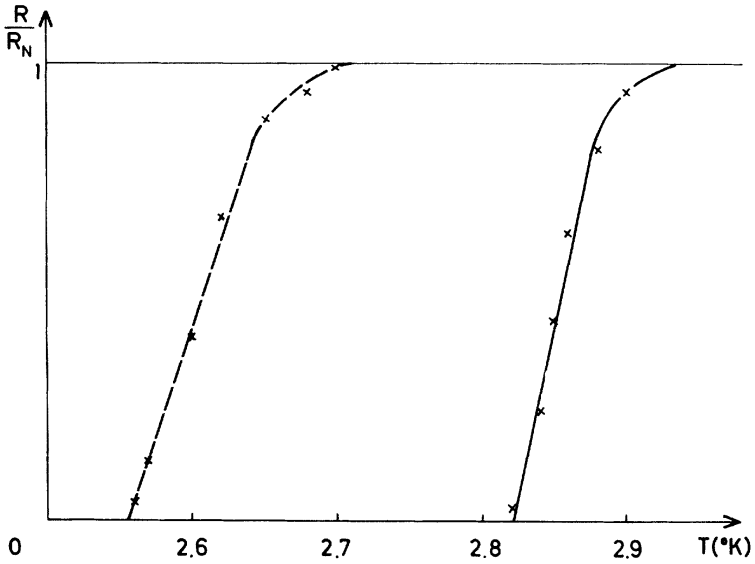
(Received 27 December 1968)

PRL 22, 395 (1969)



FeNi/In/Ni junction

SFS π junction

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Josephson Junction through a Thin Ferromagnetic Layer: Negative Coupling

T. Kontos, M. Aprili, J. Lesueur,* F. Genêt, B. Stephanidis, and R. Boursier
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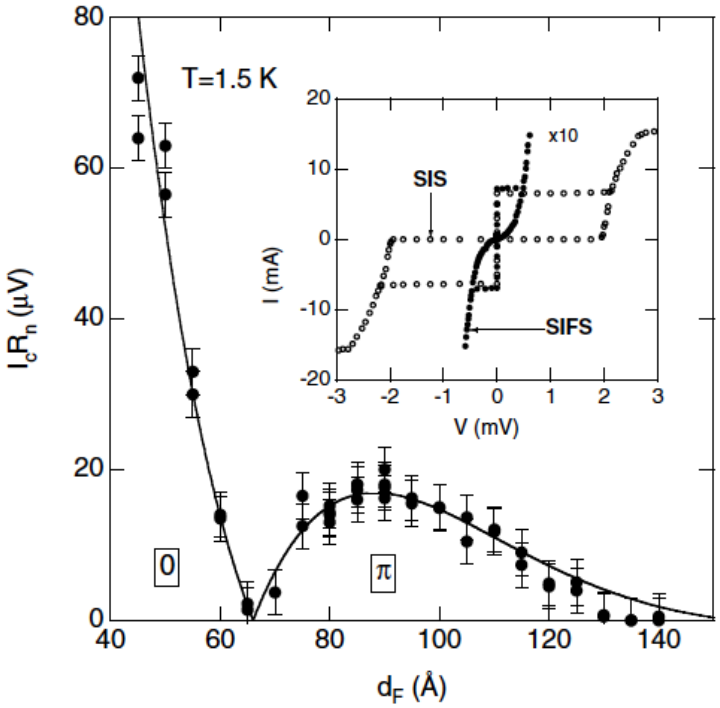
(Received 21 December 2001; published 9 September 2002)



Long range triplet proximity effect

Controlled Injection of Spin-Triplet Supercurrents into a Strong Ferromagnet

J. W. A. Robinson,* J. D. S. Witt, M. G. Blamire

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