In memory of

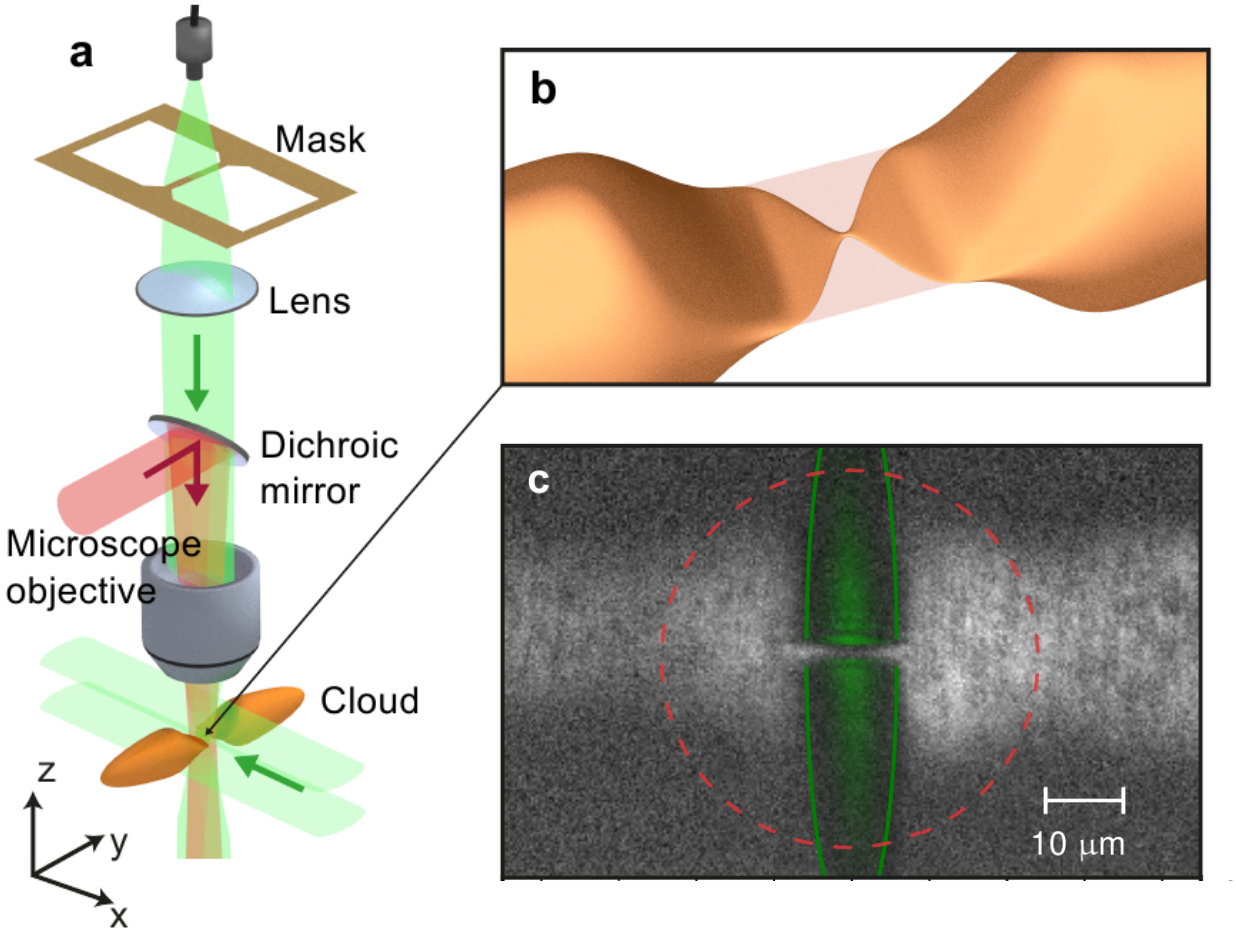
FRANK HEKKING

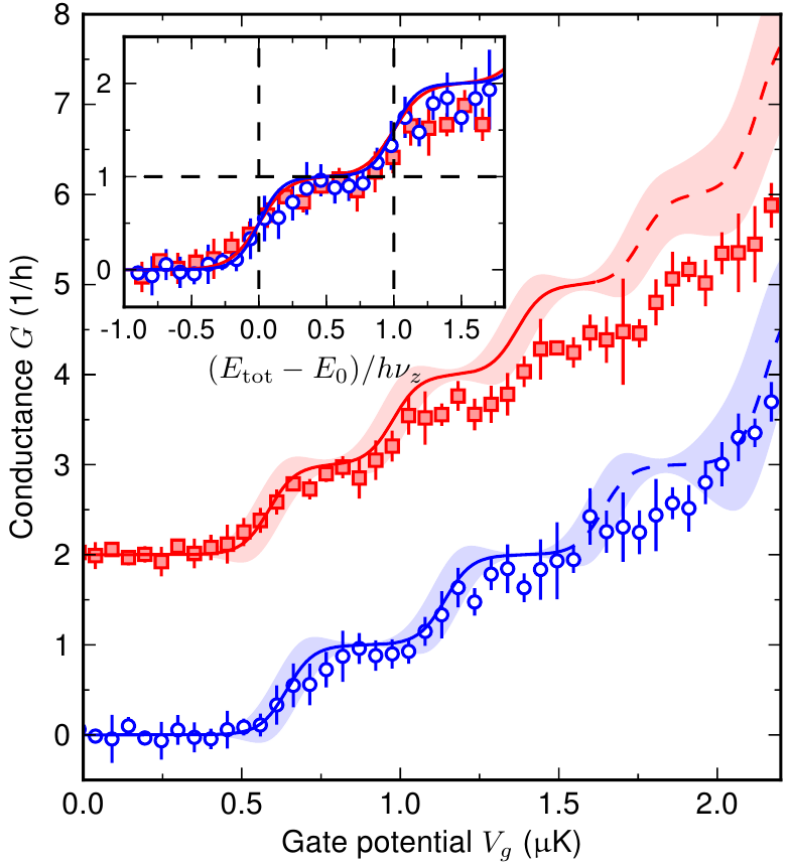
Michele Filippone
Ambizione Grantee – University of Geneva

UNIVERSITÉ
DE GENÈVE

FNSNF
SWISS NATIONAL SCIENCE FOUNDATION

Violation of the Wiedemann-Franz Law for ultracold atomic gases





S. Krinner, D. Stadler, D. Husmann, J.-P. Brantut, T. Esslinger, ***Nature 517****, 64 (2015)*

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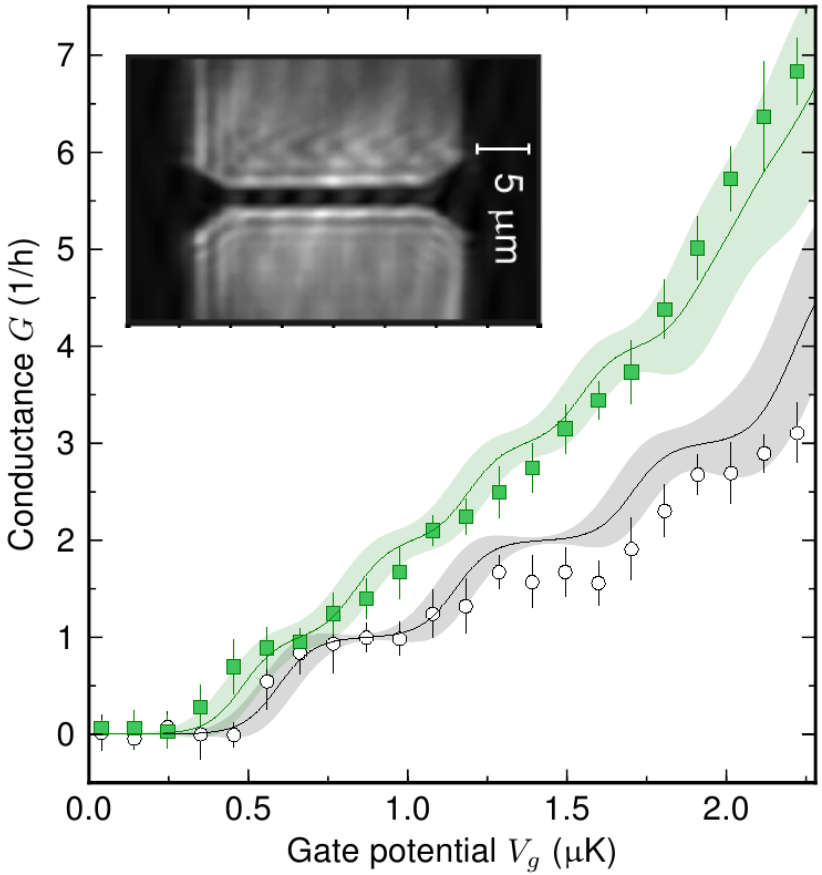
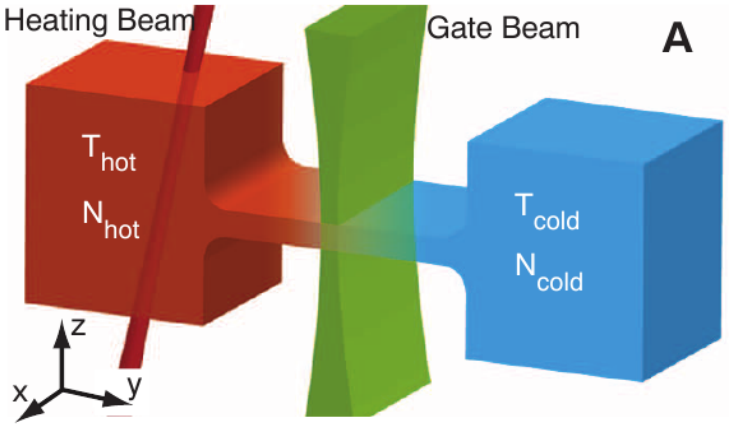
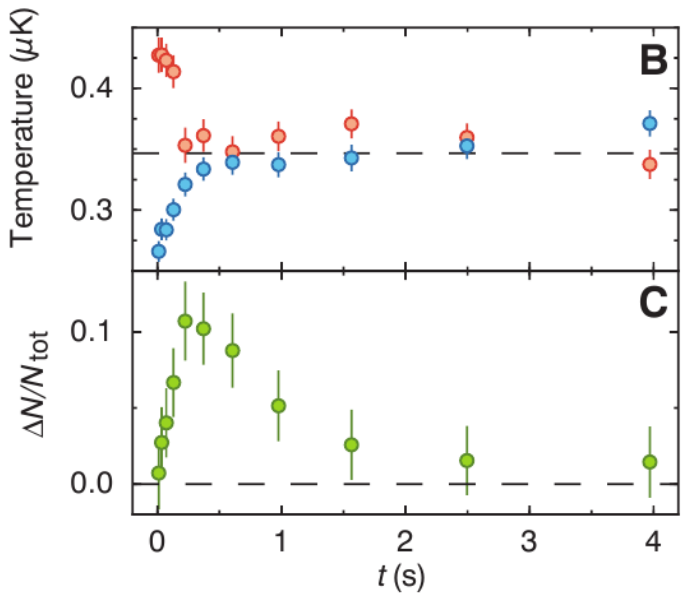
Quantum wires



Time evolution of reservoirs





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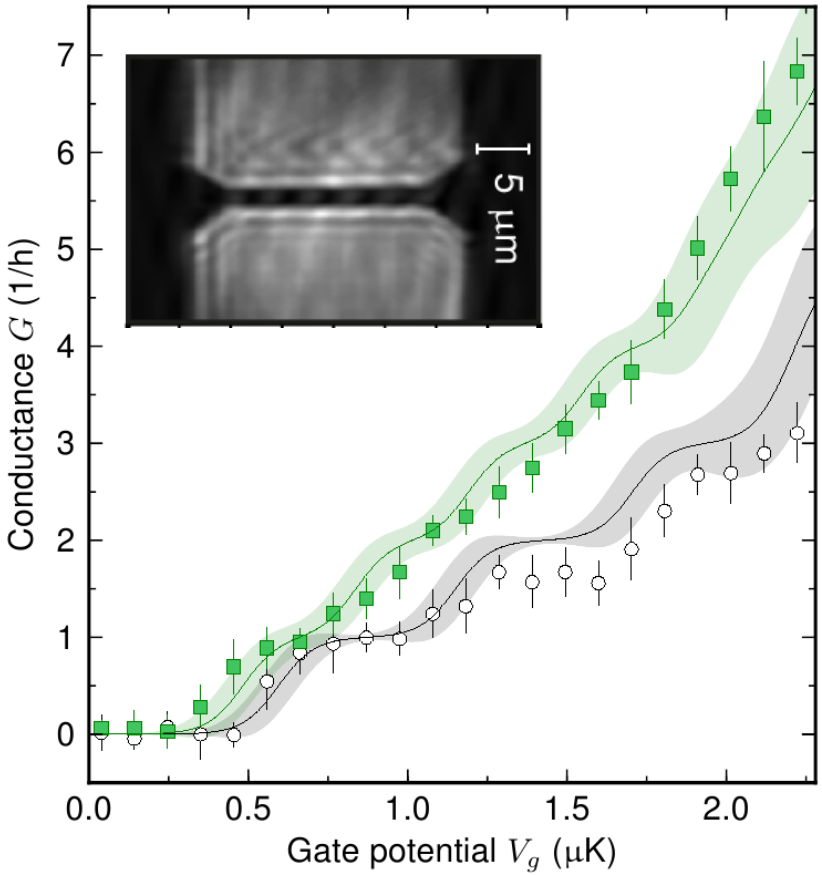

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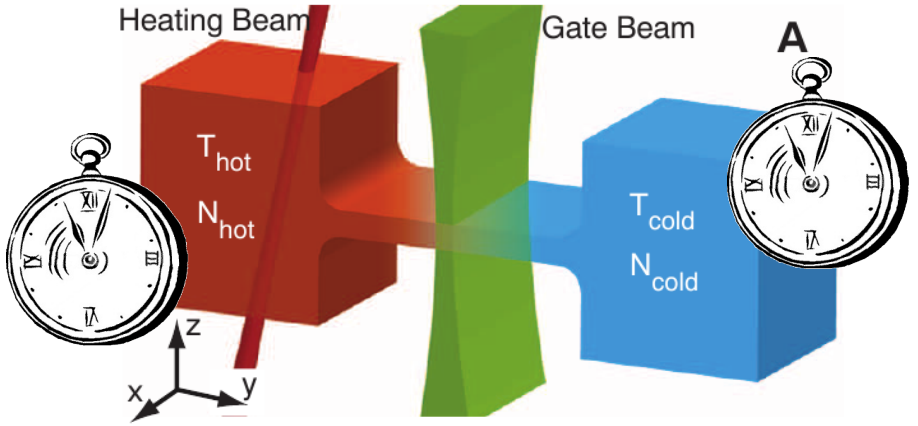

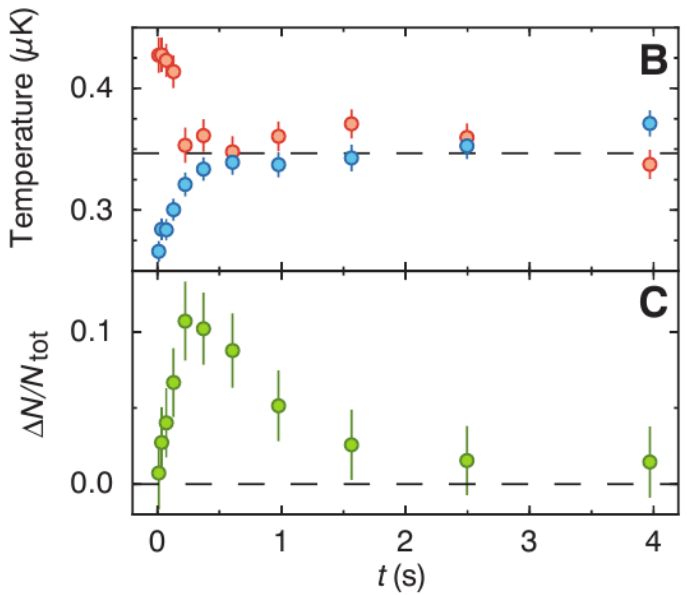

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Lorenz number

Wiedemann-Franz Law

$$L_0 = \frac{\mathcal{K}}{gT} = \frac{\pi^2}{3}\left(\frac{k_B}{e}\right)^2$$

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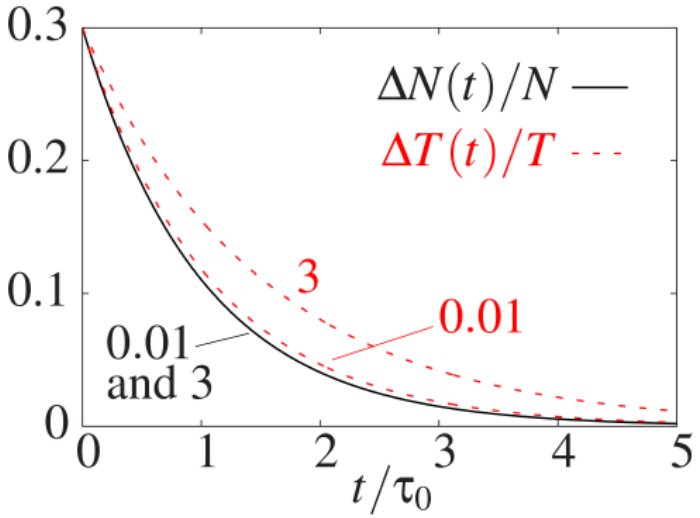
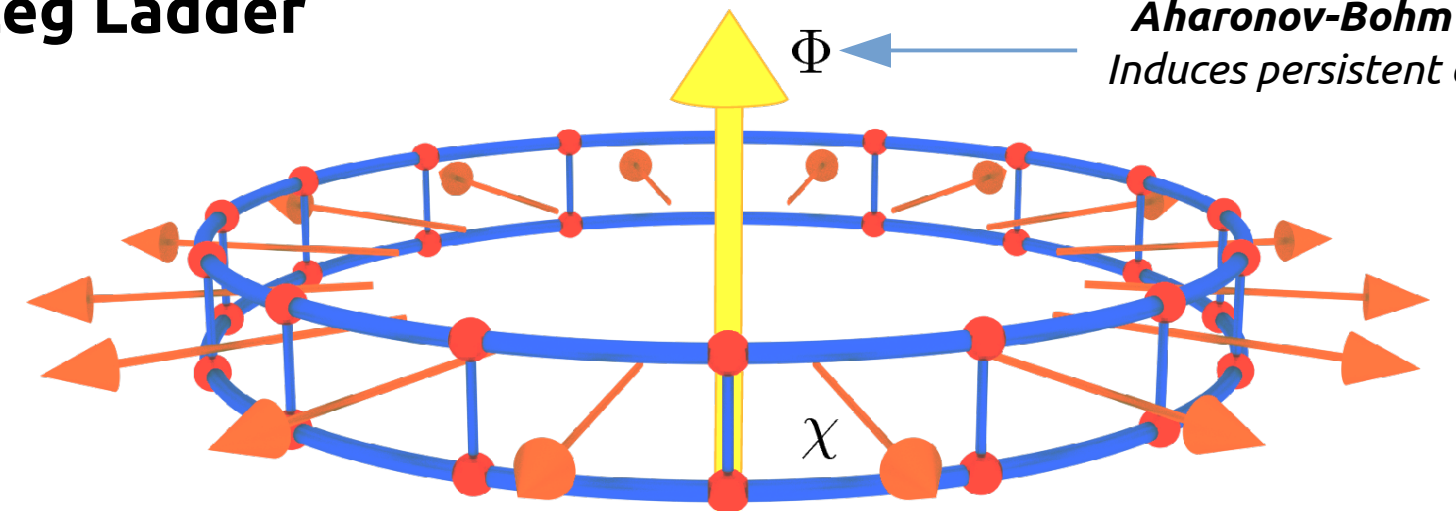
Different time scales for temperature and particle equilibration



Controlled Parity Switch of Persistent Currents in Quantum Ladders

MF, Charles-Edouard Bardyn and Thierry Giamarchi – **arXiv:1710.02152 (poster)**

Two Leg Ladder



Aharonov-Bohm Flux Φ
Induces persistent currents

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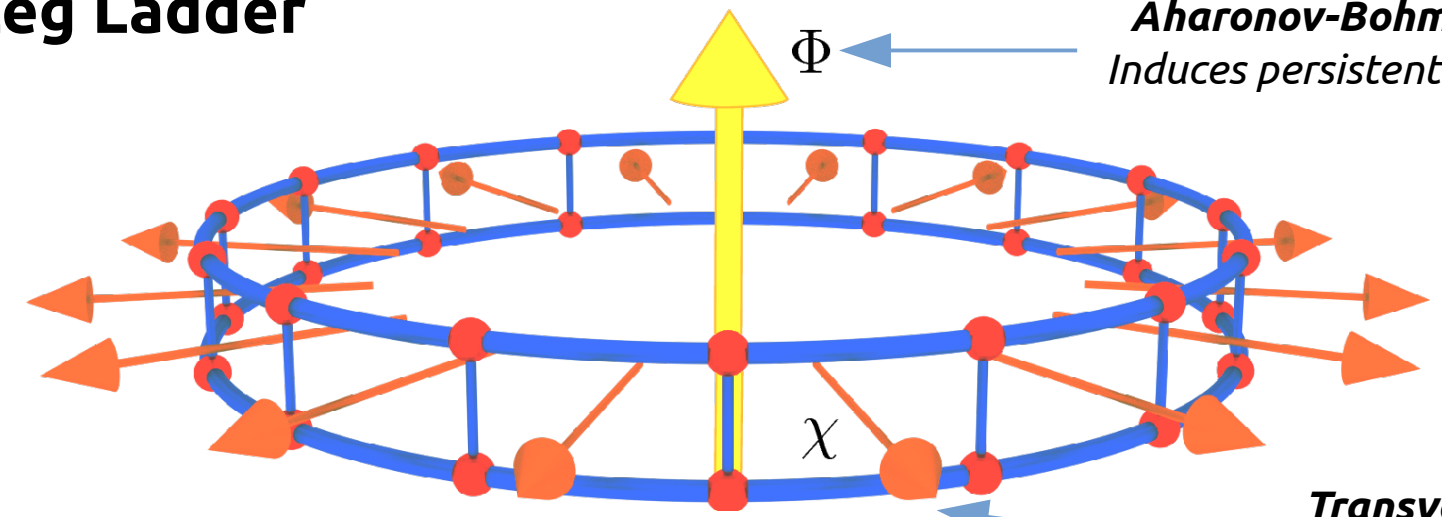

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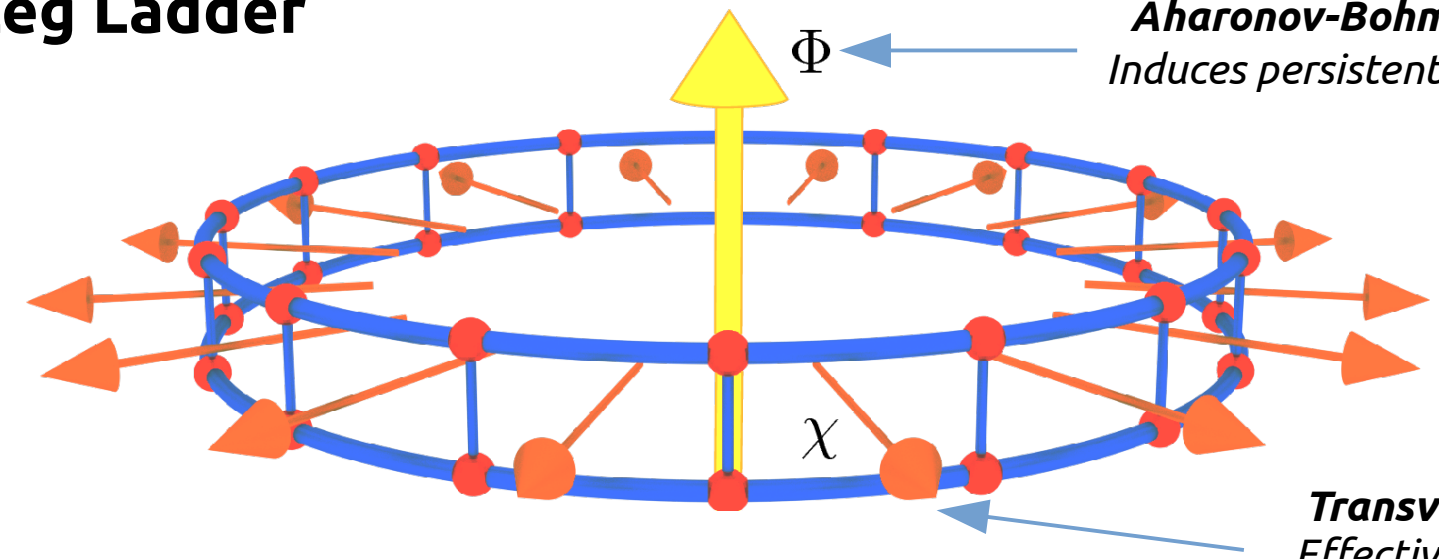

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The parity switch Is probed by Persistent currents