

## Aharonov-Bohm oscillations in the local density of states

A. Cano<sup>1,\*</sup> and I. Paul<sup>2,3,†</sup>

<sup>1</sup> *European Synchrotron Radiation Facility, 6 rue Jules Horowitz, BP 220, 38043 Grenoble, France*

<sup>2</sup> *Institut Néel, CNRS/UJF, 25 avenue des Martyrs, BP 166, 38042 Grenoble, France*

<sup>3</sup> *Institut Laue-Langevin, 6 rue Jules Horowitz, BP 156, 38042 Grenoble, France*

The density of states of an electronic system describes the number states available for putting electrons within a given energy range [1]. This quantity can be probed directly by scanning tunneling microscopy (STM) [2]. The scattering of electrons with inhomogeneities is known to modify the corresponding density of states producing local modulations [3]. These modulations were first probed by STM with atomic resolution in [4], where standing-wave patterns in the local density of states originated by the scattering of electrons with impurities and step edges were observed on the surface of Cu(111). Interference contributions to these modulations are affected by the magnetic field via the Aharonov-Bohm effect [5]. In the talk, I shall discuss how this phenomenon can be exploited in a simple STM setup that serves as an Aharonov-Bohm interferometer at the nanometer scale [5].

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\* Electronic address: `cano@esrf.fr`

† Electronic address: `indranil.paul@grenoble.cnrs.fr`

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