

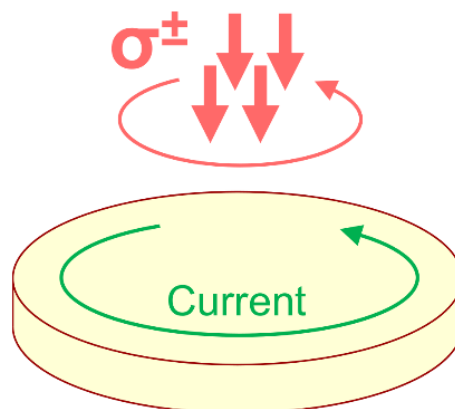


Inverse Faraday effect in superconducting condensates

Sergey Mironov

Institute for Physics of Microstructures RAS, Nizhniy Novgorod, Russia

In this talk, I will show how circularly polarized electromagnetic radiation can induce the dc magnetic moment in a superconductor. The mechanisms of this inverse Faraday effect will be illustrated within the simplest version of the phenomenological dynamic theory for superfluids, namely, the time-dependent Ginzburg-Landau (GL) model. The light-induced magnetic moment is strongly affected by the nondissipative oscillatory contribution to the superconducting order parameter dynamics which appears due to the nonzero imaginary part of the GL relaxation time. The relevance of the latter quantity to the Hall effect in the superconducting state allows establishing the connection between the direct and inverse Faraday phenomena.



Superconducting disk

12.11.2021 at 09:00

Seminarraum A, Währinger Straße 17, 2nd floor, 1090 Wien

or online

<https://univiennea.zoom.us/j/94823227234?pwd=QkY4dkxKbFI0Vk9weE5jTmlwZ04wQT09>

Meeting ID: 948 232 27234

Passcode: 839111