

Topology and Superconductivity, A Road to Reality

Carlo Beenakker

Leiden Institute of Physics, Leiden University, The Netherlands

***Email of Presenting Author: beenakker@lorentz.leidenuniv.nl**

Topological states of matter are a source of low-energy quasiparticles, bound to a defect or propagating along the surface. In a superconductor these are Majorana fermions, described by a real rather than a complex wave function. The absence of complex phase factors promises protection against decoherence in quantum computations based on topological superconductivity.