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Fractional Flux Vortices in Mesoscopic Two-Component Superconductors LIVIU CHIBOTARU, VU HUNG DAO, University of Leuven, DIVISION OF QUANTUM AND PHYSICAL CHEMISTRY TEAM — Conventional superconductors have vortices carrying integer multiples of magnetic flux quantum while unconventional ones, with p- or d-wave order parameter, allow half-integer fluxes. In this presentation we show that mesoscopic size effects stabilize fractional flux vortices in the *thermodynamical ground state* of s-wave two-gap superconductors. The value of these fluxes can be an *arbitrary fraction of flux quantum* and can be measured directly from distributions of magnetic fields on the samples.

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