

Webinar

The quest for Majorana fermions

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The Majorana fermions, which are particles of their own antiparticles and theoretically proposed in 1937, are being searched for in condensed matter platforms. These elusive particles are considered to be indispensable in the fault-tolerant topological quantum computing. I shall talk about our theoretical proposal of a planar Josephson junction, attached to a skyrmion crystal, in which the Majorana fermions can be created and controlled by magnetic skyrmions. Our proposed platform brings several advantages over the existing nano-wire-based platforms, and is a step forward towards realizing the long-sought-after Majorana braiding in a stable two-dimensional geometry.

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