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Majorana bound states in atomic structures

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Majorana bound states are zero-energy excitations predicted to localize at the edge of a one-dimensional (1D) topological superconductor. Such excitations are reported in several 1D experimental systems based on semiconductor nanowires and ferromagnetic atomic chains coupled to s-wave superconductors. The next set of experiments is therefore expected to go beyond simple spectroscopy measurements and aim at establishing the necessary control over these excitations. In this talk, I will discuss potential ways of achieving such control of Majorana states in atomic size structures.