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**Topological phase transition of a Josephson junction and its dynamics** JIMMY HUTASOIT, MARCO MARCIANI, BRIAN TARASINSKI, CARLO BEENAKKER, Lorentz Institute, Leiden University — A Josephson junction formed by a superconducting ring interrupted by a semiconductor nanowire can realize a zero-dimensional class D topological superconductor. By coupling the Josephson junction to a ballistic wire and altering the strength of the coupling, one can drive this topological superconductor through a topological phase transition. We study the compressibility of the junction as a probe of the topological phase transition. We also study the dynamics of the phase transition by studying the current pulse injected into the wire.

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