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Spectral threshold for extremal cyclic edge-connectivity.

The cyclic edge-connectivity of a graph is the smallest number of edges whose removal disconnects the graph into components where every component contains a cycle. The cyclic condition is natural in applications, such as in network reliability, as cycles are necessary to guarantee multiple paths between vertices. We will present a bound on the cyclic edge-connectivity of regular graphs, and a spectral condition for when this bound is tight. (Received September 03, 2020)