

Abstract Submitted
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Experimental Realization Of Periodically Driven PT-Symmetric Systems.¹ MAHBOOBEH CHITSAZI, HUANAN LI, FRED ELLIS, TSAMPIKOS KOTTOS, Wesleyan University — We provide the first experimental realization of a periodically driven PT-Symmetric system. Our set-up consists of two coupled 240 MHz LC resonators with balanced gain and loss controlled using a combination of photocells and a MOSFET transistors. The capacitance that couples the two resonators is parametrically driven at 4.6 MHz with a suitable network of varactor diodes. We find that driven PT-System supports a sequence of spontaneous PT-Symmetric phase transitions which lead to a cascade of PT-Symmetric broken domains bounded by exceptional point degeneracies. The latter are analyzed and are understood using an equivalent floquet frequency lattice with local PT-Symmetry. The position and size of these instability islands can be controlled through the gain/loss parameter as well as the amplitude and frequency of the coupling modulation.

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