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PT-symmetric Floquet Lattices NICHOLAS BENDER, MAHBOOBEH CHITSAZI, HUANAN LI, FRED ELLIS, TSAMPIKOS KOTTOS, Wesleyan University — We investigate spectral and dynamical properties of periodically driven PT-symmetric dimer systems and show that in the Floquet space they are described by Parity-Time symmetric lattices. The topology of the Floquet lattice depends on the complexity of the driving. For the simplest driving scheme associated with a sinusoidal coupling, we show that as the gain/loss parameter increases, the Floquet spectrum and the corresponding eigenvectors undergo a transition from an exact to a broken PT-symmetric phase via an Exceptional Point singularity. The phase transition is also reflected in the associated Floquet dynamics. This paves the way to experimentally investigate extended lattice dynamics in PT-systems. Arealization in the RF domain is reported and compared with the theoretical analysis.

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