

*Abstract*—We proposed a high-sensitive circuit scheme based on an exceptional point of degeneracy (EPD) using two LC resonators coupled with a gyrator. EPD is a point in a system's parameter space in which two or more eigenmodes coalesce in both their resonance frequency and eigenvectors into a single degenerate eigenmode by varying a parameter in the system. We demonstrate that two parallel LC resonators, coupled with a gyrator, can generate an EPD at a desired frequency. We present the conditions to obtain EPDs in this circuit, and the typical bifurcation diagram that shows the extreme sensitivity of such a circuit operating at an EPD to system's perturbations. The very high sensitivity induced by an EPD can be used to explore a new generation of high-sensitive sensors.