1 Bifurcations of Equilibria and Cycles

Bifurcation of Equilibria	Behavior	Frequency	Amplitude	Operation
Fold	bi-stable	nonzero	fixed	integrator
Saddle-node on Invariant Circle (SNIC)	excitable	zero ($\sqrt{\lambda}$)	fixed	integrator
Supercritical Hopf	excitable	nonzero	zero ($\sqrt{\lambda}$)	resonator
Subcritical Hopf	bi-stable	nonzero	arbitrary	resonator

Table 1: Bifurcations of Equilibria (adapted from [1] with modifications)

Bifurcation of Cycles	Behavior	Frequency	Amplitude
SNIC	excitable	zero ($\sqrt{\lambda}$)	fixed
Supercritical Hopf	excitable	nonzero	zero ($\sqrt{\lambda}$)
Fold Limit Cycle*	bi-stable	nonzero	arbitrary
Saddle Homoclinic Orbit	bi-stable	zero ($1/\lvert \ln \lambda \rvert$)	fixed
Saddle-Focus Homoclinic Orbit	bi-stable	zero ($1/\lvert \ln \lambda \rvert$)	fixed
Focus-Focus Homoclinic Orbit	bi-stable	zero ($1/\lvert \ln \lambda \rvert$)	fixed
Subcritical Flip**	bi-stable	nonzero	arbitrary
Subcritical Neimark-Sacker	bi-stable	nonzero	arbitrary
Blue-sky	excitable	zero ($\sqrt{\lambda}$)	fixed

Table 2: Bifurcations of Cycles (Adapted from [1] with modifications). *Also called Saddle Node of Limit Cycles; **Also called period-doubling bifurcation;