

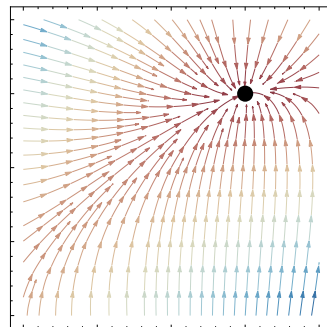
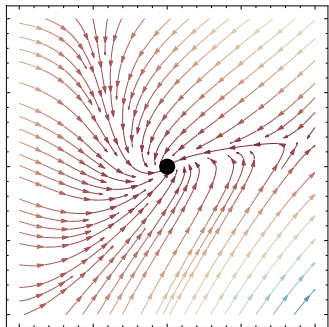
$$Tr(J) = -2.25, \quad Det(J) = 1.55$$

$$\dot{x} = 0.92 - 0.75x + 0.60y - 1.86xy + 1.09x^2$$

$$\dot{y} = 0.27 + 2.11x - 1.45y - 1.5xy + 0.57y^2$$

$$J|_{(x=1,y=1)} = \begin{pmatrix} -0.43 & -1.26 \\ 0.61 & -1.82 \end{pmatrix}$$

$$Eig[J|_{(x=1,y=1)}] = (-1.12 - 0.54i \quad -1.12 + 0.54i)$$



$$Tr(J) = -4.18, \quad Det(J) = 3.85$$

$$\dot{x} = 0.20 - 0.82x + 2.05y - 1.48xy + 0.57x^2$$

$$\dot{y} = 1.73 + 1.75x - 1.56y - 0.93xy + 0.04y^2$$

$$J|_{(x=1.5,y=1.5)} = \begin{pmatrix} -1.33 & -0.17 \\ 0.36 & -2.85 \end{pmatrix}$$

$$Eig[J|_{(x=1.5,y=1.5)}] = (-2.81 \quad -1.37)$$

$$\dot{x} = s_x - d_x x + e_x y - c_x xy + b_x x^2$$

$$\dot{y} = s_y + e_y x - d_y y - c_y xy + b_y y^2$$

$$J = \begin{pmatrix} -d_x - c_x y + 2b_x x & e_x - c_x x \\ e_y - c_y y & -d_y - c_y x + 2b_y y \end{pmatrix}$$

$Det(J)$

S

$Tr(J)$

U

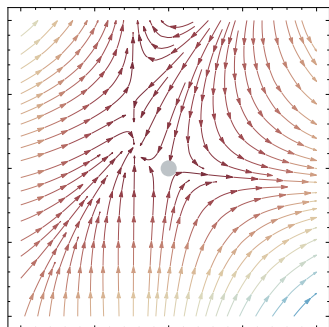
$$Tr(J) = -0.61, \quad Det(J) = -0.38$$

$$\dot{x} = 0.41 - 1.63x + 0.70y - 0.92xy + 1.44x^2$$

$$\dot{y} = 1.07 + 0.94x - 1.84y - 1.24xy + 1.06y^2$$

$$J|_{(x=1,y=1)} = \begin{pmatrix} 0.33 & -0.22 \\ -0.30 & -0.94 \end{pmatrix}$$

$$Eig[J|_{(x=1,y=1)}] = (-1.00 \quad 0.38)$$



$$Tr(J) = 0.57, \quad Det(J) = -3.22$$

$$\dot{x} = 0.71 - 1.93x + 2.18y - 1.09xy + 0.61x^2$$

$$\dot{y} = 0.11 + 0.22x - 1.17y - 1.16xy + 1.74y^2$$

$$J|_{(x=1.5,y=1.5)} = \begin{pmatrix} -1.75 & 0.55 \\ -1.52 & 2.32 \end{pmatrix}$$

$$Eig[J|_{(x=1.5,y=1.5)}] = (2.10 \quad -1.53)$$

