

$$\begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \end{bmatrix} = \begin{bmatrix} -p_1 x_2 - x_1^3 \\ -x_1 - x_2^2 \end{bmatrix}$$

$$p_2 = 0 \quad p_3 = 1 \quad p_4 = 0$$

$$p_1 > 0$$

$$p_1 = 0.5$$

Unknown

$$x \in D_u$$

unstable

$$x_1^{*1} = 0$$

$$x_2^{*1} = 0$$

$$x \in D_{s12}$$

$$x \in D_u$$

$$p_1=1 \quad p_3=0 \quad p_4=1$$

$$p_2=0 \quad p_3=1 \quad p_4=0$$

$$\begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \end{bmatrix} = \begin{bmatrix} p_2 x_1 - x_2 - x_1^3 \\ p_2 x_1 - x_1^2 \end{bmatrix}$$

$$p_1 = 1 \quad p_3 = 0 \quad p_4 = 1$$

$$p_2 > 0$$

$$p_2 = 0.5$$

Unknown

$$x \in D_u$$

unstable

$$x_1^{*1} = 0$$

$$x_2^{*1} = 0$$

unstable

$$x_1^{*2} = 0.5$$

$$x_2^{*2} = 0.125$$

stable

$$x_1^{*2} = -0.7579$$

$$x_2^{*2} = 0.8705$$

$$x \in D_{s12}$$

$$\begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \end{bmatrix} = \begin{bmatrix} -p_1 x_2 + p_2 x_1 - x_1^3 \\ -p_3 (x_2^2 + x_1) + p_2 x_1 - p_4 x_1^2 \end{bmatrix}$$