



$$f_+ (x_1^2, -x_1 + \frac{1}{2}x_1^2) \quad f_- (1, x_1^2)$$

$$\downarrow \qquad \qquad \qquad \downarrow$$

$$1, -\frac{1}{2} \qquad \qquad \qquad 1, 1$$

$$x_1 = 2 \quad (4, 0) \quad (1, 16)$$

$$\frac{d\varphi}{dt} = 0 \rightarrow \frac{d\varphi}{dx} \cdot \frac{dx}{dt} = 1 \cdot \dot{x}_2 = \lambda f^+ + (1-\lambda) f^-$$

$$\frac{\partial \varphi}{\partial x_1} = 0 \quad \frac{\partial \varphi}{\partial x_2} = 1 \quad \frac{dx_2}{dt}$$

$$= \lambda (-x_1 + \frac{1}{2}x_1^2) + (1-\lambda)(x_1^2) = 0$$

$$\lambda = \frac{x_1}{1+x_1+1} \in [0, 1]$$

$$\dot{x}_1 = \lambda \cdot x_1^2 + (1-\lambda) \cdot 1$$

$$\dot{x}_2 = 0$$

$$\frac{2x_1^2 - x_1 + 2}{x_1 + 2}$$