

**b** True cusp bifurcation dynamics :

$$\dot{x} = \phi_1 + \phi_2 x - x^3$$

$$(\phi_1, \phi_2) : (1, 4) \rightarrow (3, 3)$$



Surrogate model :

$$\dot{x} = (1.4 + 0.4\nu) + (3.8 - 0.2\nu)x - x^3$$

$$\nu : -1 \rightarrow 4$$

