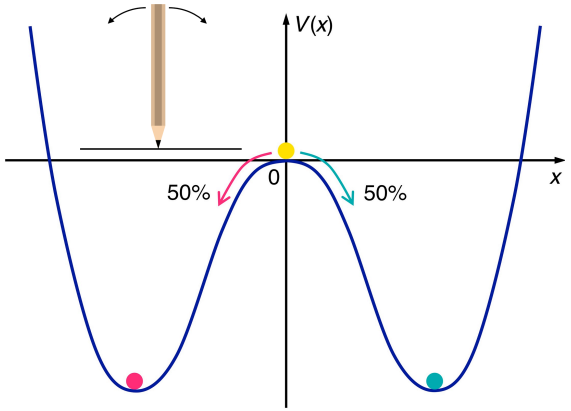
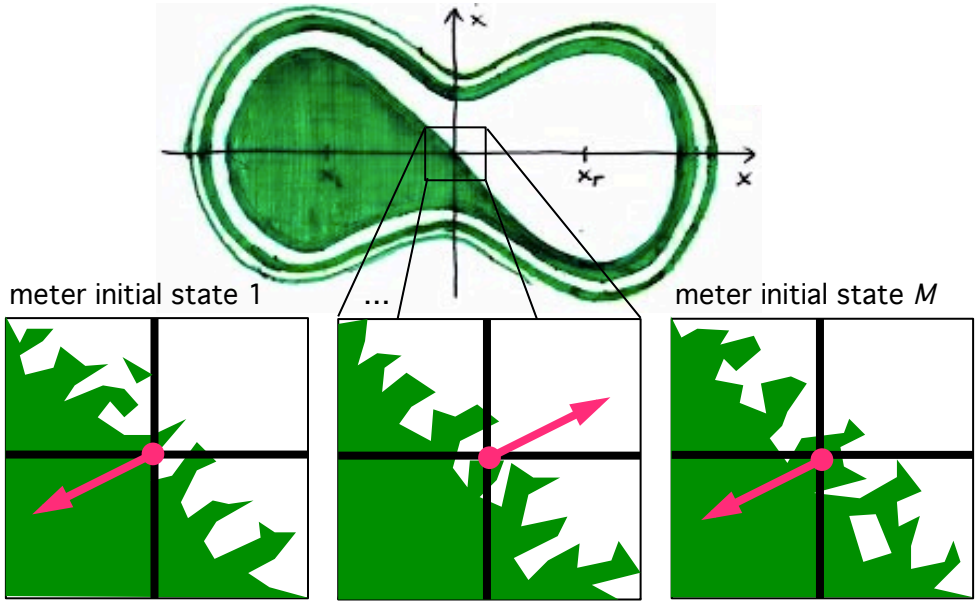
3 Numerical / experimental test

3.2 Classical model

Double well with dissipation and noise



Basins of attraction



$$H(p,x;\mathbf{P},\mathbf{X}) = H_{\mathrm{dw}} + H_{\mathrm{c}} + H_{\mathrm{m}}$$

double well:

$$H_{\mathrm{dw}}(p,x) = \frac{p^2}{2m} - a\frac{x^2}{2} + b\frac{x^4}{4}$$

coupling:

$$H_{\mathrm{c}}(p,x;\mathbf{P},\mathbf{X}) = x\sum_{n=1}^{N} g_n X_n$$

meter:

$$H_{\mathrm{m}}(\mathbf{P},\mathbf{X}) = \sum_{n=1}^{N}\left(\frac{P_n^2}{2M_n} + M_n\omega_n^2\frac{X_n^2}{2}\right)$$

initial states

double well:	meter:
"Buridan's ass"	equilibrium
$p = 0,\ x = 0$	$\langle \mathbf{P} \rangle = \mathbf{0},\ \langle \mathbf{X} \rangle = \mathbf{0}$