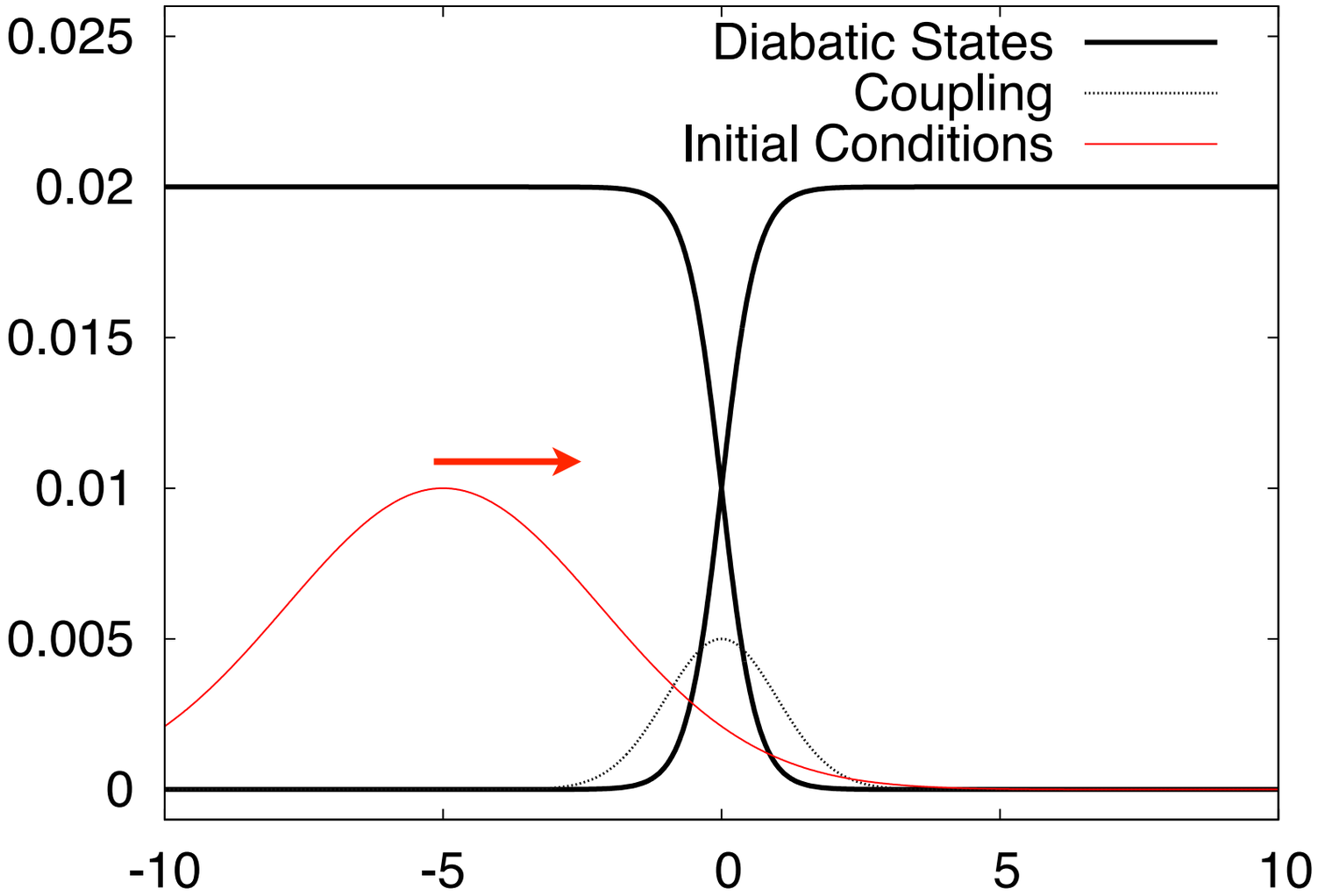


Tully Model I

$E = 0.1$

$$\hat{A} = |\Psi\rangle\langle\Psi|$$

$$\hat{B} = |\Phi_1\rangle\langle\Phi_1|$$

or

$$\hat{B} = \delta(\hat{P} - P_f)$$

MMST maps electronic states to classical dofs

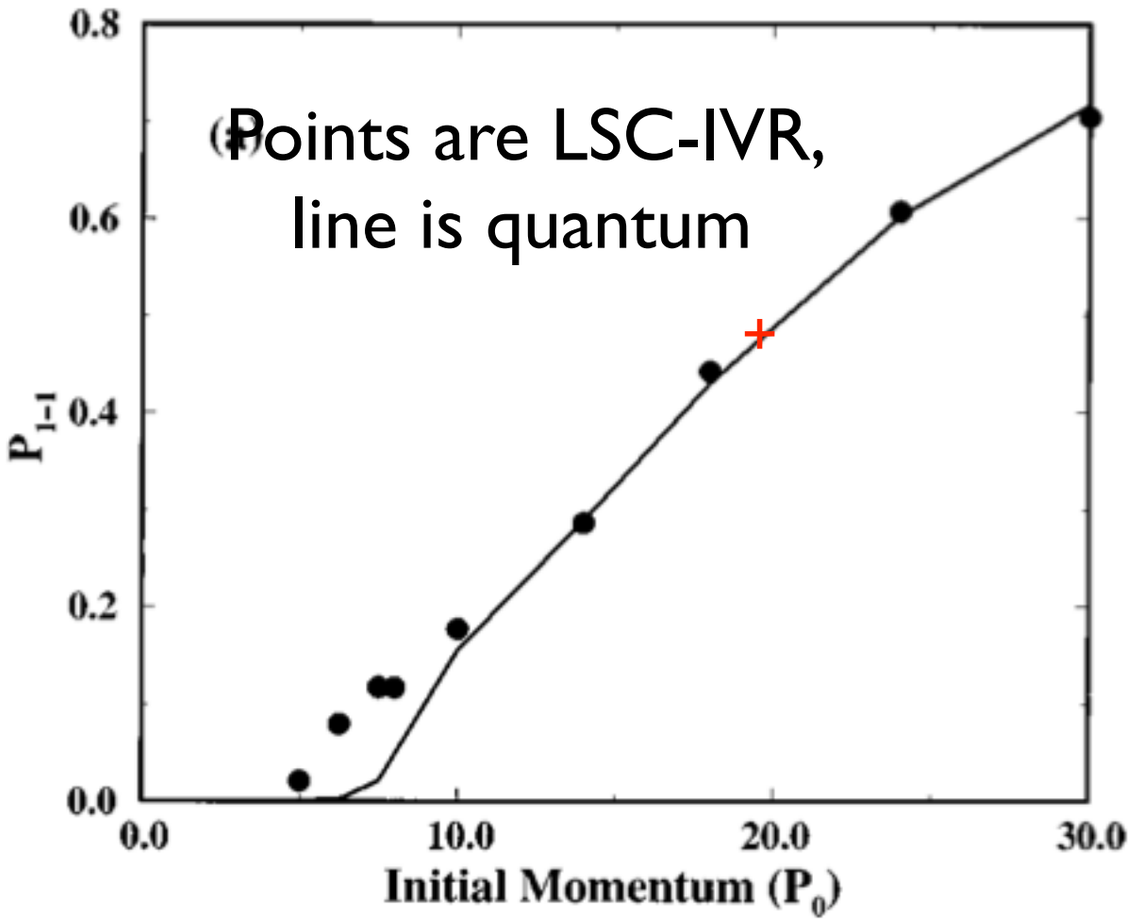
$$H_{\mathrm{MMST}} = \frac{P^2}{2m} + \frac{1}{2}\sum_{i,j} V_{ij}(R)\left(x_i x_j + p_i p_j - \delta_{ij}\right)$$

Tully Model: Tully. JCP **93** 1061 (1990).

MMST: Meyer, Miller. JCP **70** 3214 (1979).
Stock, Thoss. PRL **78** 578 (1997).

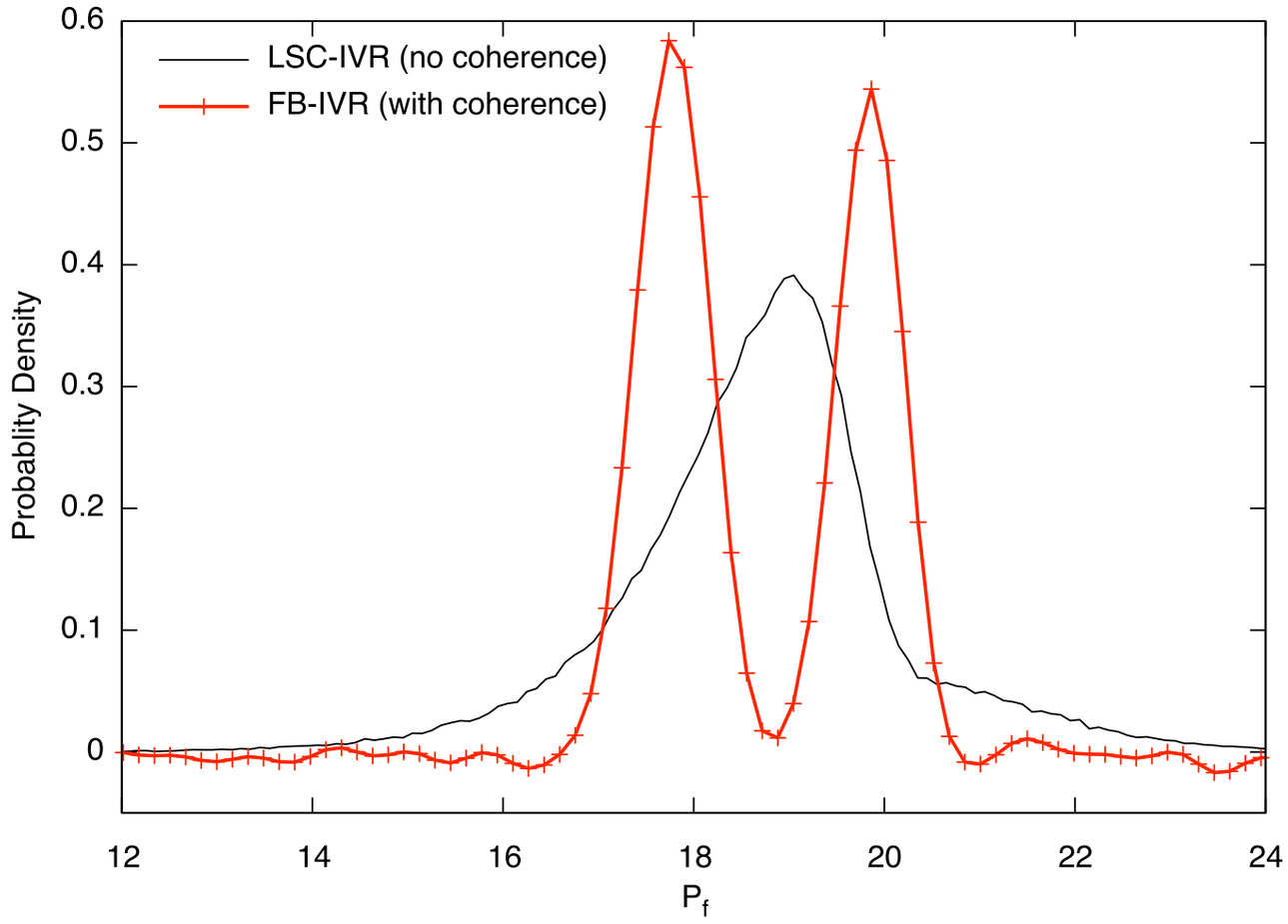
AVM Paradox

No coherence for population dynamics



Sun, Wang, Miller.
JCP **109** 7064 (1998).

Req. coherence for momentum distrib.



Ananth, Venkataraman, Miller.
JCP **127** 084114 (2007).