

Time-Dependent Importance Sampling

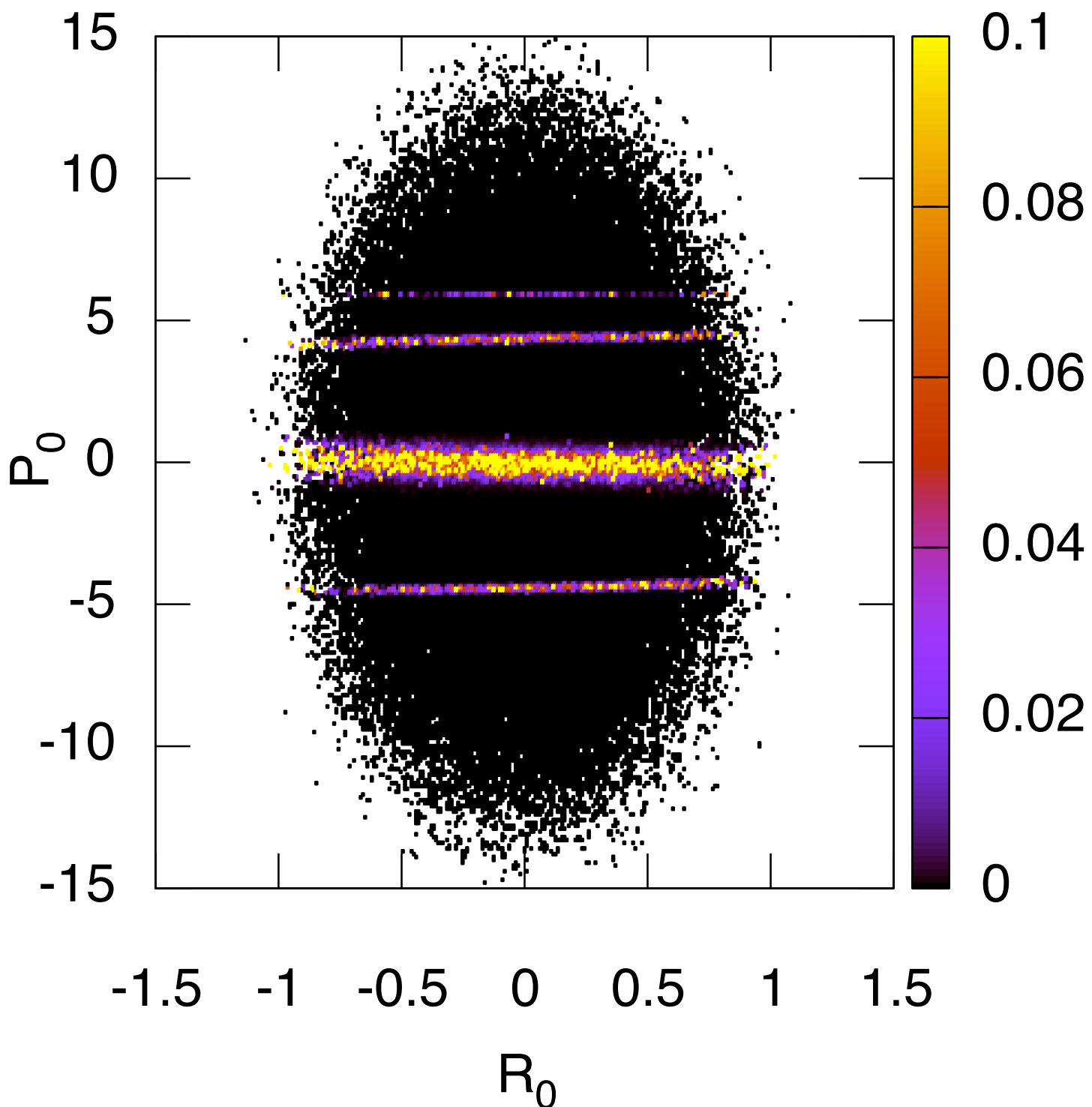
$$C_{AB}(t) \approx (2\pi)^{-F} \int d\mathbf{q}_0 \int d\mathbf{p}_0 \int d\mathbf{q}'_0 \int d\mathbf{p}'_0$$

$$\times \underbrace{\langle \mathbf{q}_0 \mathbf{p}_0 | \hat{A} | \mathbf{q}'_0 \mathbf{p}'_0 \rangle}_{A(x)} \underbrace{\langle \mathbf{q}'_t \mathbf{p}'_t | \hat{B} | \mathbf{q}_t \mathbf{p}_t \rangle}_{B(x)} \underbrace{C_t^{\text{HK}} C_{t'}^{\text{HK}*} e^{i(S_t - S'_t)}}_{C(x)}$$

$$\int dx A(x) B(x) C(x) = N_{AB} \left\langle e^{i\phi_{AB}(x)} C(x) \right\rangle_{|A(x)B(x)|}$$

1. Run classical trajectories to select points
2. Run semiclassical trajectories to accumulate results

TDIS Samples Separated Regions



- Solution 1: Random walk MC with large step size
- Solution 2: “Global,” non-random-walk, trial move (TD-G)
- Small acceptance ratios