$$C_{AB}^{\mathrm{DHK}}(t) = \int \mathrm{d}\Omega_0 \int \mathrm{d}\Omega_0' \underbrace{\left\langle \Omega_0 \middle| \hat{A} \middle| \Omega_0' \right\rangle}_{\tilde{A}} \underbrace{\left\langle \Omega_t' \middle| \hat{B} \middle| \Omega_t \right\rangle}_{B} \underbrace{C_t^{\mathrm{HK}} C_{t'}^{\mathrm{HK}*}}_{C} e^{\frac{i}{\hbar}(\tilde{A}+B+C)S}$$

Focus on amplitude (ignore all phases)

Ignore prefactor

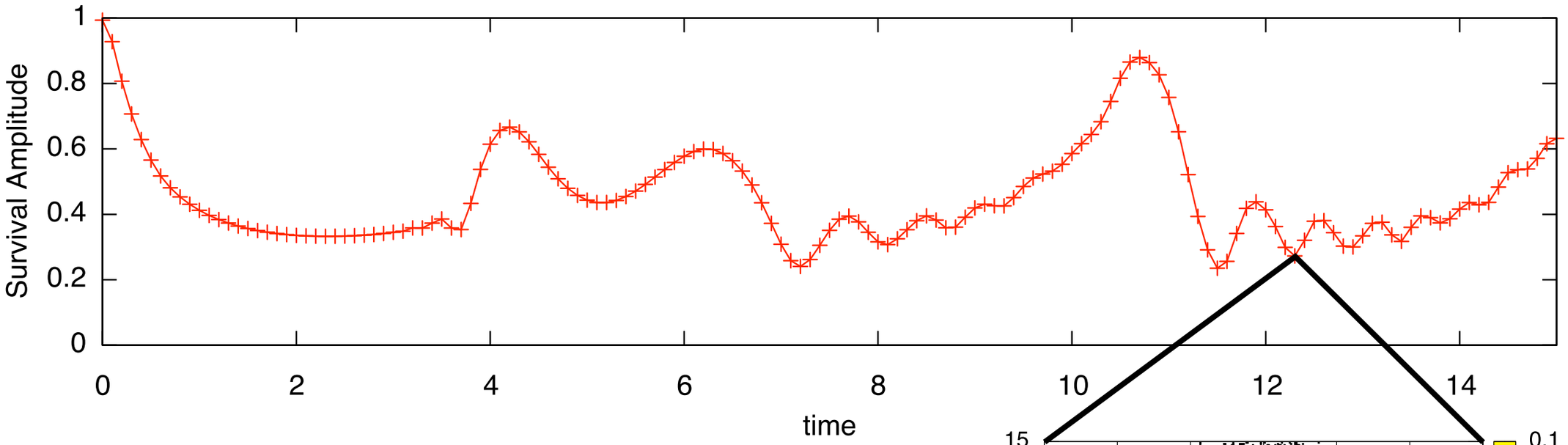
Use unimodal envelope of *A*, ignore correction factor

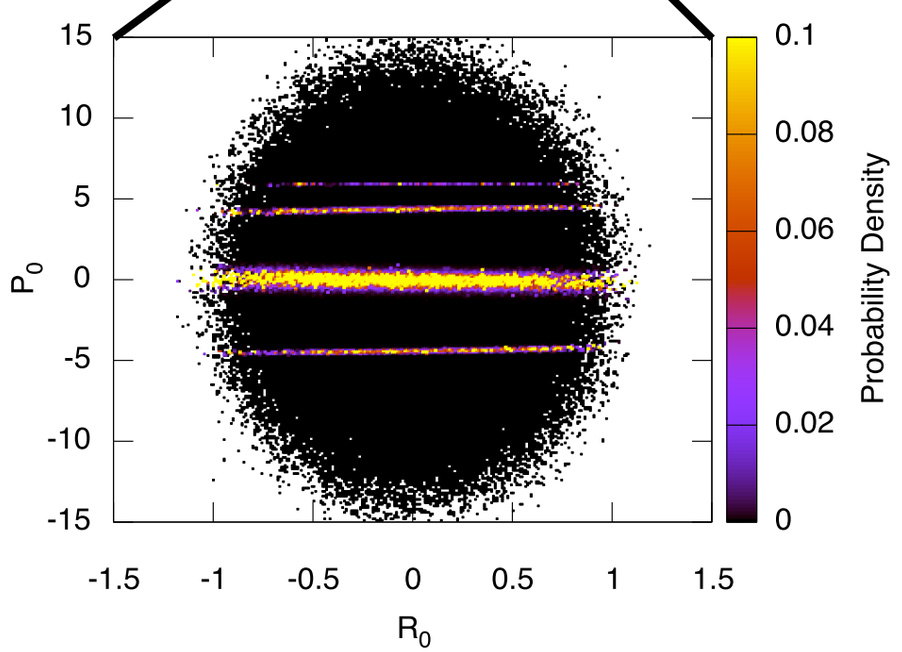
$$I(\Omega_0, \Omega_0') = \tilde{A}(\Omega_0, \Omega_0')\, B(\Omega_t, \Omega_t')$$

Symmetrize phase spaces for the IIPSD histogram

$$\bar{I}(\xi_0) = \frac{1}{N} \int \mathrm{d}\xi \, \left(I(\Omega_0, \Omega_0') + I(\Omega_0', \Omega_0) \right) \delta(\xi - \xi_0)$$

IIPSD Example





Axes are initial phase space

white: not sampled

black: unimportant

Small, distinct regions indicate likely interference effects

$$\bar{I}(\xi_0) = \frac{1}{N} \int \mathrm{d}\xi \; \left(I(\Omega_0, \Omega_0') + I(\Omega_0', \Omega_0) \right) \delta(\xi - \xi_0)$$