$$C_{AB}^{\mathrm{DHK}}(t) = \int \mathrm{d}\Omega_0 \int \mathrm{d}\Omega_0' \underbrace{\left\langle \Omega_0 \middle| \hat{A} \middle| \Omega_0' \right\rangle}_{\tilde{A} \,\,\, e^{i\phi_A}} \underbrace{\left\langle \Omega_t' \middle| \hat{B} \middle| \Omega_t \right\rangle}_{B \, e^{i\phi_B}} \underbrace{\mathcal{C}_t^{\mathrm{HK}} \mathcal{C}_{t'}^{\mathrm{HK}*}}_{C \, e^{i\phi_C}} e^{i\phi_S}$$

Focus on amplitude (ignore all phases)

Ignore prefactor

Use unimodal envelope of A, ignore correction factor

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

$$C_{AB}^{\mathrm{DHK}}(t) = \int \mathrm{d}\Omega_0 \int \mathrm{d}\Omega_0' \underbrace{\left\langle \Omega_0 \middle| \hat{A} \middle| \Omega_0' \right\rangle}_{\tilde{A}\,e^{i\phi_A}} \underbrace{\left\langle \Omega_t' \middle| \hat{B} \middle| \Omega_t \right\rangle}_{B\,e^{i\phi_B}} \underbrace{\mathcal{C}_t^{\mathrm{HK}} \mathcal{C}_{t'}^{\mathrm{HK}*}}_{\mathcal{C}\,e^{i\phi_C}} \,e^{i\phi_S}$$

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

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