0.1 Model: Cascade-Kaon

Talk about model

$$
\begin{aligned}
C(\mathbf{k}^*) &= \sum_S \rho_S \int S(\mathbf{r}^*)|\Psi^S_{\mathbf{k}^*}(\mathbf{r}^*)|^2 d^3\mathbf{r}^* \\
\Psi_{\mathbf{k}^*}(\mathbf{r}^*) &= e^{i\delta_c}\sqrt{A_c(\eta)}[e^{i\mathbf{k}^*\cdot\mathbf{r}^*}F(-i\eta,1,i\xi) + f_c(k^*)\tfrac{\tilde{G}(\rho,\eta)}{r^*}] \\
f_c(k^*) &= [\tfrac{1}{f_0} + \tfrac{1}{2}d_0 k^{*2} - \tfrac{2}{a_c}h(\eta) - ik^* A_c(\eta)]^{-1} \\
\rho &= k^* r^*;\ \eta = (k^* a)^{-1};\ a = (\mu z_1 z_2 e^2)^{-1} \\
\xi &= \mathbf{k}^*\cdot\mathbf{r}^* + k^* r^* \equiv \rho(1+\cos\theta^*)
\end{aligned}
\tag{1}
$$

$$
\begin{aligned}
C(\mathbf{k}^*) &= \sum_S \rho_S \int S(\mathbf{r}^*)|\Psi^S_{\mathbf{k}^*}(\mathbf{r}^*)|^2 d^3\mathbf{r}^* \\
&\longrightarrow C(|\mathbf{k}^*|) \equiv C(k^*) = \sum_S \rho_S \langle|\Psi^S(\mathbf{k}^*_\mathbf{i},\mathbf{r}^*_\mathbf{i})|^2\rangle_i \\
&\longrightarrow C(k^*) = \lambda\sum_S \rho_S \langle|\Psi^S(\mathbf{k}^*_\mathbf{i},\mathbf{r}^*_\mathbf{i})|^2\rangle_i + (1-\lambda)
\end{aligned}
\tag{2}
$$