

$$q_\eta(x,\chi)=\frac{1}{2}\int_{-\infty}^{\infty}\frac{dz}{2\pi}e^{-izxP^1(\chi)}\langle\eta|e^{-i\chi\hat{K}}\bar{\psi}(-z)W_S(-z,z)\gamma^0\psi(z)e^{i\chi\hat{K}}|\eta\rangle$$