

$$\left(\frac{1}{\tau}\right)_{\perp_{x,y}}^{m,n} = \frac{-1}{|n|+1} \frac{ZeI_bC\langle\beta_{x,y}\rangle\omega_{rev}}{4\pi E_{tot}L_b} \frac{\sum_{p=-\infty}^{\infty} \Re[Z_{\perp}(\omega_p)] h_{|n|}(\omega_p - \omega_{\xi})}{\sum_{p=-\infty}^{\infty} h_{|n|}(\omega_p - \omega_{\xi})}$$