

$$\begin{aligned}
& \iint d\psi d\chi \left\{ \frac{JB^2}{R^2 B_p^2} |k_{\parallel} X|^2 + \frac{R^2 B_p^2}{JB^2} \left| \frac{1}{n} \frac{\partial}{\partial \psi} (JBk_{\parallel} X) \right. \right. \\
& \frac{2J}{B^2} \frac{dp}{d\psi} \left[|X|^2 \frac{\partial}{\partial \psi} \left(p + \frac{B^2}{2} \right) - \frac{iF}{JB^2} \frac{\partial}{\partial \chi} \left(\frac{B^2}{2} \right) \right. \\
& \frac{X^*}{n} JBk_{\parallel} \left(X \frac{d\sigma}{d\psi} \right) + \frac{1}{n} [PJBk_{\parallel}^* Q^* + P^* JBk_{\parallel} Q] \\
& \left. \left. \frac{\partial}{\partial \psi} \left[\frac{\sigma}{n} X^* JBk_{\parallel} X \right] \right\}
\end{aligned}$$