

$$\chi(x, t) \sim \frac{1}{2\pi N^2 |A|^{1/2}} \frac{R}{R_h |Z|} \operatorname{Im} \left\{ q_0(k, t_s) \exp \left\{ i \left[\phi - \frac{1}{2} \pi H(A) \right] \right\} \right\},$$