

$$\left( \frac{n_{\infty}}{10^5 \text{ cm}^{-3}} \right) \left( \frac{M_{\text{BH}}}{10^4 M_{\odot}} \right) \gtrsim \left( \frac{T_{\infty}}{10^4 \text{ K}} \right)^{3/2}$$