

$$\frac{\dot{M}}{\dot{M}_{\text{Edd}}} \propto n(R_{\text{B}}) M_{\text{BH}} T_{\infty}^{-3/2} \simeq 5 \times 10^4 M_{\text{BH}}^{-1} T_{\infty,4}^{1/2} T_{\text{vir},4} M_{\odot}$$