$$\begin{split} f(\mathbf{v}, t = 0) &= f_h + f_c \\ &= \frac{n_0}{\pi^{3/2}} \left(\frac{e^{-v^2/v_{Th}^2}}{v_{Th}^3} \theta(v_{\parallel}) + \frac{e^{-[(v_{\parallel} + v_d)^2 + v_{\perp}^2]/v_{Tc}^2}}{v_{Tc}^3 (1 + \text{ erf } (v_d/v_{Tc}))} \theta(-v_{\parallel}) \right) \end{split}$$