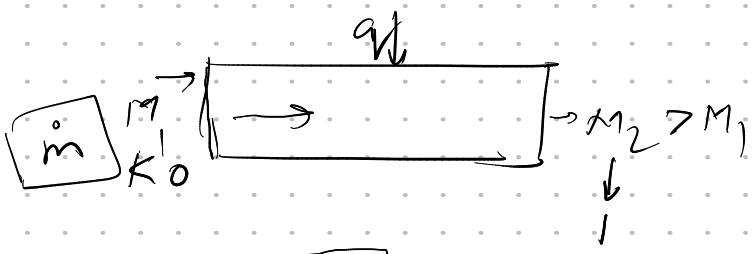
Rayleigh Flow

→ Derivations
→ Plots

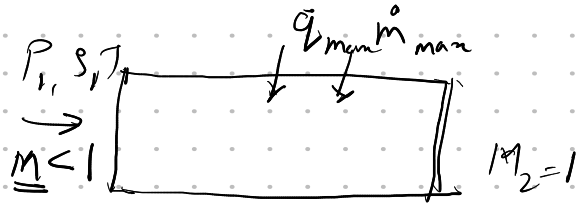


$q \rightarrow q_{max}$

$M_2 \rightarrow 1$

Keith & John:

Ramjet Combustor



$M_1 = 0.2$

$\frac{T_{0_1}}{T_1} = \left(1 + \frac{\gamma-1}{2} M_1^2\right) \Rightarrow T_{0_1}$

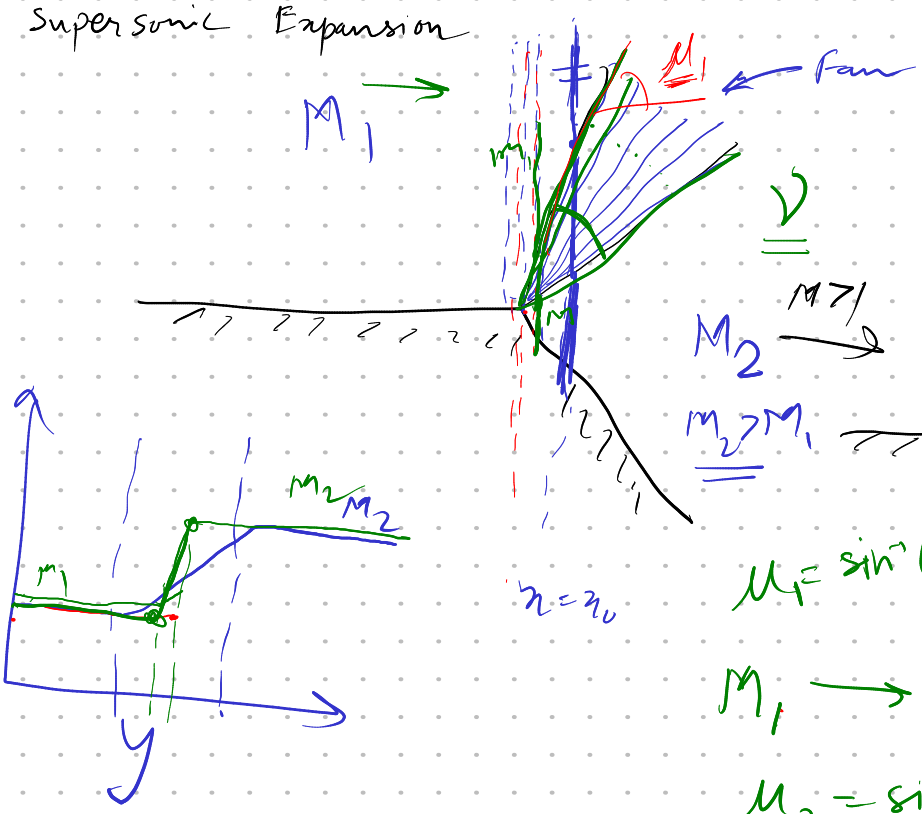
$c_p (T_{0_2} - T_{0_1}) = q$

$q_{max} = c_p (T_0^* - T_{0_1})$

From R.T.

$\dot{m}_{max}$

Supersonic Expansion



$\mu_1 = \sin^{-1}\left(\frac{1}{M_1}\right)$

$M_1 \longrightarrow M_2$

$\mu_2 = \sin^{-1}\left(\frac{1}{M_2}\right)$