

Shock jump conditions

ref. frame		adiabatic	$\gamma = 5/3$	isothermal
	$\frac{\rho_o}{\rho_i} =$	$\frac{M^2(\gamma + 1)}{M^2(\gamma - 1) + 2}$	$\frac{4}{1 + \frac{3}{M^2}}$	M^2
shock ($\frac{v_i}{c_s} = -M$)	$\frac{v_o}{c_s} =$	$-\frac{M^2(\gamma - 1) + 2}{M(\gamma + 1)}$	$-\frac{M^2 + 3}{4M}$	$-\frac{1}{M}$
lab ($v_i = 0$)	$\frac{v_o}{c_s} =$	$\frac{2(M^2 - 1)}{M(\gamma + 1)}$	$\frac{3(M^2 - 1)}{4M}$	$M - \frac{1}{M}$
	$\frac{P_o}{P_i} =$	$\frac{(2M^2 - 1)\gamma + 1}{\gamma + 1}$	$\frac{5M^2 - 1}{4}$	M^2