

Linear Gas Dynamics - Acoustic in a pipe

Write equations:  $R_t + \rho_0 u_x = 0$  and  $u_t + (a_0^2/\rho_0) R_x = 0$ , where  $R$  is the density perturbation to  $\rho_0$  [ $\rho = \rho_0 + R$ ]

Boundary conditions for closed ( $u = 0$ ) and open ( $R = 0$ ) pipe ends.

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