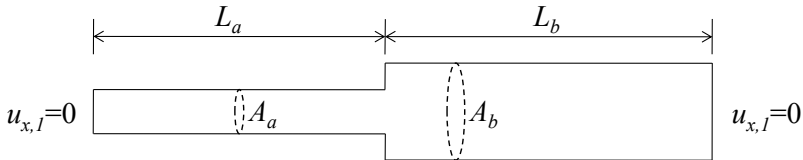


AE 6410 Combustion Dynamics

Due Oct. 5

In this homework, we will consider a similar problem as discussed in class and in the notes, which is sketched below. Consider the coupling of two ducts with an abrupt area change, This geometry consists of two ducts with lengths of L_a and L_b , and cross-sectional areas of A_a and A_b , and rigid boundary conditions.



Change this problem by replacing the rigid boundary condition at the left side to a pressure release boundary condition and work through an analysis of the natural frequencies of this coupled system and their dependence on geometric parameters. Discuss your results