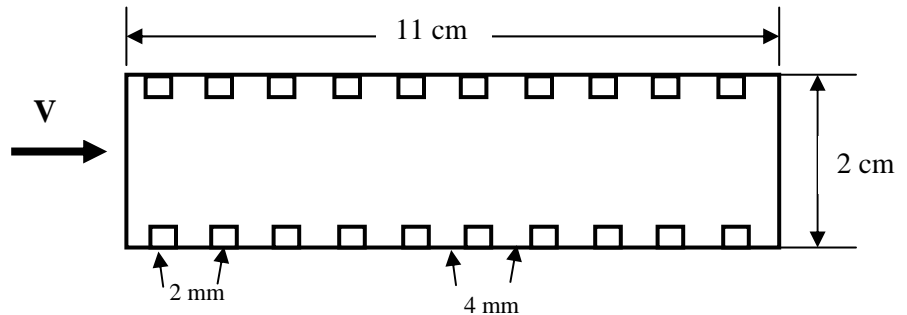


Electronic Cooling / Rough Ducts

For a rough duct assume that there are rectangular roughness elements 2 mm wide and 1, 2, and 4 mm are mounted on the duct walls with a spacing of 4 mm. Evaluate the flow fields for the inlet velocities of 0.1 and 5 m/s. Also evaluate the

dispersion and deposition of particles in the size range of 0.01 to 100 μm from point sources located at three locations in the duct inlet. Also evaluate the deposition of particles for a uniform inlet concentration. Identify the deposition rate at different roughness elements.



Flow in a Room

For a typical class room, assume that the air velocity is $V=2$ m/s and flow is turbulent. Assume that a student has a cold and is sneezing. Find the trajectory of the cold virus and the chance for other student to catch a cold.

Truck Emission

Simulate the flow around a truck moving on a road. Study the dispersion of particulate emission from the truck exhaust. Describe the conditions you have assumed and discuss the results.

