



Item Navigation

Pipe Flow

Pipe flow consists of an incompressible fluid flowing through a pipe of circular cross-section radius R , with a constant pressure gradient along the pipe length. Choose a coordinate system so that the pressure gradient is in the x -direction and the y - and z -axes are perpendicular to the sides of the pipe. Find the solution for the velocity field of the form $\mathbf{u} = u(y, z)\mathbf{i}$, with $p = p(x)$, $dp/dx = -G$ and G is a positive constant. Use polar coordinates.

Note: Remember, you may check the solutions in the lecture notes.

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