Total Swag Factor of Harold Pimentel

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Foundations of Harold's Swag

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Inspiration taken from some upper division course I took on accident first semester past drop deadline without knowing what a PDE or partial derivative is.

Theorem 1. Harold's swag (Total Swag Factor) can be modeled with the following for any given instance:

$$\frac{\partial k}{\partial t} + \overline{u}_j \frac{\partial k}{\partial x_j} = -\frac{1}{\rho_0}\frac{\partial \overline{u_i' p'}}{\partial x_i} - \frac{1}{2}\frac{\partial \overline{u_j' u_j' u_i'}}{\partial x_i} + v\frac{\partial^2 k}{\partial x_j^2} - \overline{u_i' u' j}\,\frac{\overline{u_i}}{\partial x_j} - v\overline{\frac{\partial u_i'}{\partial x_j}\frac{\partial u_i'}{\partial x_j}} - \frac{g}{\rho_0}\overline{p' u_i'}\delta_{i3} + \epsilon$$

Definitions. Here, the previous equation's terms will be defined.

$$\begin{aligned}
k &= \text{Total Swag Factor (TSF)'s mean-flow} \\
\frac{\partial k}{\partial t} &= \text{Local material derivative of TSF with respect to time} \\
\overline{u}_j \frac{\partial k}{\partial x_j} &= \text{Advection of TSF with influence onto others} \\
-\frac{1}{\rho_0}\frac{\partial \overline{u_i' p'}}{\partial x_i} &= \text{Diffusion of Knowledge} \\
-\frac{1}{2}\frac{\partial \overline{u_j' u_j' u_i'}}{\partial x_i} &= \text{Turbulent transport of swag} \\
v\frac{\partial^2 k}{\partial x_j^2} &= \text{2nd moment of molecular swag} \\
-\overline{u_i' u' j}\,\frac{\overline{u_i}}{\partial x_j} &= \text{Swag absorbed due to gravity} \\
-v\overline{\frac{\partial u_i'}{\partial x_j}\frac{\partial u_i'}{\partial x_j}} &= \text{Swag loss due to biochemical processes of maintenance} \\
-\frac{g}{\rho_0}\overline{p' u_i'}\delta_{i3} &= \text{Swag flux} \\
\epsilon &= \text{Marginal error}
\end{aligned}$$