We consider a right rectangular prism of dimension L, W, H with the frame at the center of the prism as x y, z. The ice has initial position is x_0, y_0, z_0 in the flow field. The flow field is prescribed by the variable $u(x, y, z, t)$, $v(x, y, z, t)$, $w(x, y, z, t)$ and pressure $p(x, y, z, t)$. We consider the frame of reference as the fixed within the inlet.

$$\frac{\mathrm{d}^2\underline{r}}{\mathrm{d}t^2} = \frac{1}{2}\rho_0 \left\| \frac{\mathrm{d}\underline{r}}{\mathrm{d}t} - \underline{u}(\underline{r}) \right\|^2 \underline{C}_A +$$