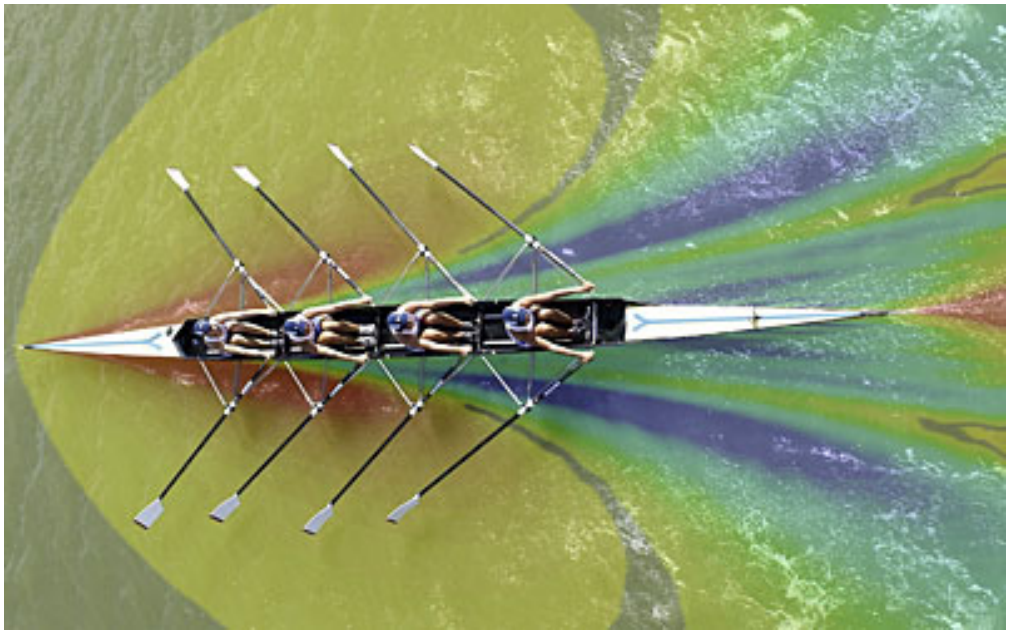

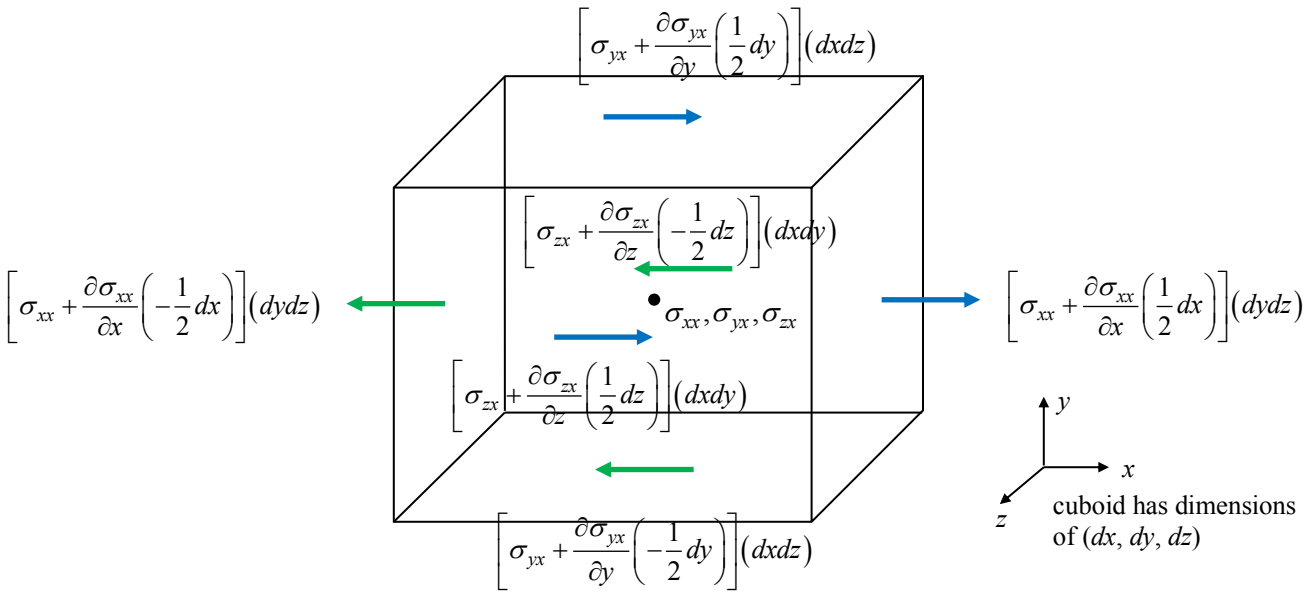

$$\sum F_x = \left[\sigma_{xx}+\frac{\partial\sigma_{xx}}{\partial x}\left(\frac{1}{2}dx\right)\right](dydz)-\left[\sigma_{xx}+\frac{\partial\sigma_{xx}}{\partial x}\left(-\frac{1}{2}dx\right)\right](dydz)$$
$$+\left[\sigma_{yx}+\frac{\partial\sigma_{yx}}{\partial y}\left(\frac{1}{2}dy\right)\right](dxdz)-\left[\sigma_{yx}+\frac{\partial\sigma_{yx}}{\partial y}\left(-\frac{1}{2}dy\right)\right](dxdz)$$
$$+\left[\sigma_{zx}+\frac{\partial\sigma_{zx}}{\partial z}\left(\frac{1}{2}dz\right)\right](dxdy)-\left[\sigma_{zx}+\frac{\partial\sigma_{zx}}{\partial z}\left(-\frac{1}{2}dz\right)\right](dxdy)$$
$$\therefore \sum F_x = \left[\frac{\partial\sigma_{xx}}{\partial x}+\frac{\partial\sigma_{yx}}{\partial y}+\frac{\partial\sigma_{zx}}{\partial z}\right](dxdydz)$$
$$\therefore \sum F_y = \left[\frac{\partial\sigma_{xy}}{\partial x}+\frac{\partial\sigma_{yy}}{\partial y}+\frac{\partial\sigma_{zy}}{\partial z}\right](dxdydz)$$
$$\therefore \sum F_z = \left[\frac{\partial\sigma_{xz}}{\partial x}+\frac{\partial\sigma_{yz}}{\partial y}+\frac{\partial\sigma_{zz}}{\partial z}\right](dxdydz)$$