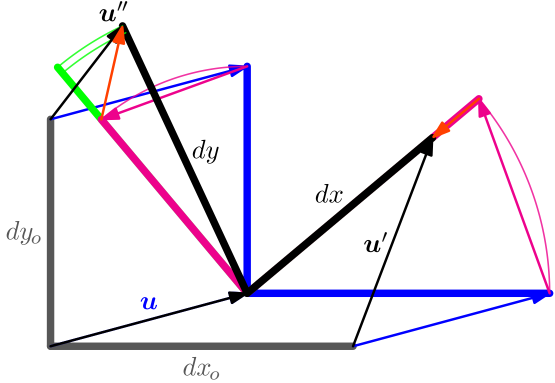


$\boldsymbol{u}''$
dy
dx
dy_o
$\boldsymbol{u}'$
$\boldsymbol{u}$
dx_o

$$\boldsymbol{u} = \boldsymbol{r} - \boldsymbol{r}_o \qquad \boldsymbol{u}' = (\boldsymbol{r} + \boldsymbol{dr}_x) - (\boldsymbol{r}_o + \boldsymbol{dr}_{xo}) = \boldsymbol{u} + \boldsymbol{dr}_x - \boldsymbol{dr}_{xo}$$

$$\boldsymbol{r} = x\boldsymbol{e}_x + y\boldsymbol{e}_y \qquad \boldsymbol{u}'' = (\boldsymbol{r} + \boldsymbol{dr}_y) - (\boldsymbol{r}_o + \boldsymbol{dr}_{yo}) = \boldsymbol{u} + \boldsymbol{dr}_y - \boldsymbol{dr}_{yo}$$

$$\boldsymbol{r}_o = x_o\boldsymbol{e}_{xo} + y_o\boldsymbol{e}_{yo}$$

$$\boldsymbol{dr}_{xo} = dx_o\boldsymbol{e}_{xo} + 0\boldsymbol{e}_{yo}\,, \ \ \boldsymbol{dr}_x = dx\boldsymbol{e}_x$$

$$\boldsymbol{dr}_{yo} = 0\boldsymbol{e}_{xo} + dy_o\boldsymbol{e}_{yo}\,, \ \ \boldsymbol{dr}_y = dy\boldsymbol{e}_y$$

$$\boldsymbol{u}' = \boldsymbol{u} + dx\boldsymbol{e}_x - dx_o\boldsymbol{e}_{xo} = \boldsymbol{u} + \boldsymbol{du}_x$$

$$\boldsymbol{u}'' = \boldsymbol{u} + dy\boldsymbol{e}_y - dy_o\boldsymbol{e}_{yo} = \boldsymbol{u} + \boldsymbol{du}_y$$

$$\boldsymbol{e}_\alpha \bullet \boldsymbol{e}_{\beta o} = o_{\alpha\beta o} = \cos\measuredangle(\boldsymbol{e}_\alpha, \boldsymbol{e}_{\beta o}) \ \Leftrightarrow \ \boldsymbol{e}_\alpha = o_{\alpha\beta o}\boldsymbol{e}_{\beta o}\,, \ \boldsymbol{e}_{\beta o} = \boldsymbol{e}_\alpha o_{\alpha\beta o}$$

$$o_{xxo} = \cos\omega$$

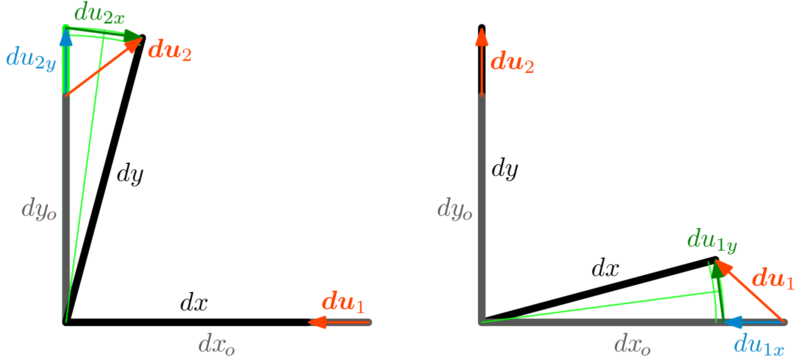
$$o_{xyo} = \cos(\tfrac{\pi}{2} - \omega) = \sin\omega$$

$$o_{yxo} = \cos(\tfrac{\pi}{2} + \omega) = -\sin\omega$$

$$o_{yyo} = \sin(\tfrac{\pi}{2} + \omega) = \cos\omega$$

$$\boldsymbol{e}_x = \cos\omega\,\boldsymbol{e}_{xo} + \sin\omega\,\boldsymbol{e}_{yo} \qquad \boldsymbol{e}_{xo} = \cos\omega\,\boldsymbol{e}_x - \sin\omega\,\boldsymbol{e}_y$$

$$\boldsymbol{e}_y = -\sin\omega\,\boldsymbol{e}_{xo} + \cos\omega\,\boldsymbol{e}_{yo} \qquad \boldsymbol{e}_{yo} = \sin\omega\,\boldsymbol{e}_x + \cos\omega\,\boldsymbol{e}_y$$



du_{2x}
du_{2y}
$\boldsymbol{du}_2$
dy
dy_o
dx
$\boldsymbol{du}_1$
dx_o
$\boldsymbol{du}_2$
dy
dy_o
du_{1y}
dx
$\boldsymbol{du}_1$
dx_o
du_{1x}