$$\nabla = \mathbf{e}_x \frac{\partial}{\partial x} + \mathbf{e}_y \frac{\partial}{\partial y} + \mathbf{e}_z \frac{\partial}{\partial z}$$

$$\nabla^2 = \nabla \cdot \nabla = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} + \frac{\partial^2}{\partial z^2}$$
$$(\nabla^2) f = \partial_x^2 f + \partial_x^2 f + \partial_z^2 f$$

$$\nabla \cdot (\nabla f) = \partial_x^2 f + \partial_y^2 f + \partial_z^2 f$$

$$\nabla \cdot (\nabla f) = \partial_x f + \partial_y f + \partial_z f$$

$$\nabla^2 = \nabla \cdot \nabla = \frac{2}{r} \frac{\partial}{\partial r} + \frac{1}{r^2 \tan(\theta)} \frac{\partial}{\partial \theta} + \frac{\partial^2}{\partial r^2} + r^{-2} \frac{\partial^2}{\partial \theta^2} + \frac{1}{r^2 \sin^2(\theta)} \frac{\partial^2}{\partial \phi^2}$$

$$(\nabla^2) f = \frac{1}{r^2} \left(r^2 \partial_r^2 f + 2r \partial_r f + \partial_\theta^2 f + \frac{\partial_\theta f}{\tan(\theta)} + \frac{\partial_\phi^2 f}{\sin^2(\theta)} \right)$$

$$\nabla \cdot (\nabla f) = \frac{1}{r^2} \left(r^2 \partial_r^2 f + 2r \partial_r f + \partial_\theta^2 f + \frac{\partial_\theta f}{\tan(\theta)} + \frac{\partial_\phi^2 f}{\sin^2(\theta)} \right)$$

$$egin{aligned} \left[oldsymbol{e}_x rac{\partial}{\partial x} + oldsymbol{e}_y rac{\partial}{\partial y} + oldsymbol{e}_z rac{\partial}{\partial z}, \ oldsymbol{e}_x rac{\partial}{\partial x} + oldsymbol{e}_y rac{\partial}{\partial z} + oldsymbol{e}_z rac{\partial}{\partial z}
ight] \end{aligned}$$

F

$$F^r \boldsymbol{e}_r + F^{\theta} \boldsymbol{e}_{\theta} + F^{\phi} \boldsymbol{e}_{\phi}$$

$$F$$

$$F^r \boldsymbol{e}_x + F^{\theta} \boldsymbol{e}_{\theta} + F^{\phi} \boldsymbol{e}_{\phi}$$

$$F^r e_r + F^{\theta} e_{\theta} + F^{\phi} e_{\phi}$$

$$(F^r oldsymbol{e}_r + F^ heta oldsymbol{e}_ heta + F^\phi oldsymbol{e}_\phi, \ F^r oldsymbol{e}_r + F^ heta oldsymbol{e}_ heta + F^\phi oldsymbol{e}_\phi)$$