$$(t, x, y, z)$$

$$\phi^t \boldsymbol{e}_t + \phi^x \boldsymbol{e}_x + \phi^y \boldsymbol{e}_y + \phi^z \boldsymbol{e}_z$$

$$\left(\partial_t \phi^t + \partial_x \phi^x + \partial_y \phi^y + \partial_z \phi^z\right) + \left(\partial_x \phi^t + \partial_t \phi^x\right) \boldsymbol{e}_{tx} + \left(\partial_y \phi^t + \partial_t \phi^y\right) \boldsymbol{e}_{ty} + \left(\partial_z \phi^t + \partial_t \phi^z\right) \boldsymbol{e}_{tz} + \left(\partial_y \phi^x - \partial_x \phi^y\right) \boldsymbol{e}_{xy} + \left(\partial_z \phi^x - \partial_x \phi^z\right) \boldsymbol{e}_{xz} + \left(\partial_z \phi^y - \partial_y \phi^z\right) \boldsymbol{e}_{yz}$$

$$\left(\partial_x \phi^t + \partial_t \phi^x\right) \boldsymbol{e}_{tx}$$

$$\left(-\partial_x^2 \phi^t - \partial_t \partial_x \phi^x\right) \boldsymbol{e}_t + \left(\partial_t \partial_x \phi^t + \partial_t^2 \phi^x\right) \boldsymbol{e}_x + \left(-\partial_x \partial_y \phi^t - \partial_t \partial_y \phi^x\right) \boldsymbol{e}_{txy} + \left(-\partial_x \partial_z \phi^t - \partial_t \partial_z \phi^x\right) \boldsymbol{e}_{txz}$$