

Notations

The following notations are used in this note:

- Partial Derivatives

$$u_t = \frac{\partial u}{\partial t} = \partial_t u$$

- Laplacian Operator

$$\nabla^2 u = \nabla \cdot \nabla u$$

- Notedly, Laplacian in Spherical Coordinate:

- Boldface vector:

$$\vec{u} = \boldsymbol{u}$$