Wärmeleitungsgleichung:

$$\frac{\partial T}{\partial t} = a\,\Delta T + \frac{\dot{q}_Q}{\rho c}$$

Laplace-Operator in kartesischen Koordinaten:

$$\Delta T = \frac{\partial^2 T}{\partial x^2} + \frac{\partial^2 T}{\partial y^2} + \frac{\partial^2 T}{\partial z^2}$$

Laplace-Operator in Zylinderkoordinaten:

$$\Delta T = \frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial T}{\partial r}\right) + \frac{1}{r^2}\frac{\partial^2 T}{\partial \varphi^2} + \frac{\partial^2 T}{\partial x^2}$$

Laplace-Operator in Kugelkoordinaten:

$$\Delta T = \frac{1}{r}\frac{\partial^2}{\partial r^2}(rT) + \frac{1}{r^2 \sin\theta}\frac{\partial}{\partial \theta}\left(\sin\theta\frac{\partial T}{\partial \theta}\right) + \frac{1}{r^2 \sin^2\theta}\frac{\partial^2 T}{\partial \varphi^2}$$