

# 位场理论

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1、格林 (green) 第一公式

$$\begin{aligned} & \iint_{\Omega} u \left( \frac{\partial^2 \nu}{\partial x^2} + \frac{\partial^2 \nu}{\partial y^2} + \frac{\partial^2 \nu}{\partial z^2} \right) dx dy dz \\ &= \oint_{\Sigma} u \left( \frac{\partial \nu}{\partial x} \cos \alpha + \frac{\partial \nu}{\partial y} \cos \beta + \frac{\partial \nu}{\partial z} \cos \gamma \right) dS \\ & - \iiint_{\Omega} \left( \frac{\partial u}{\partial x} \frac{\partial \nu}{\partial x} + \frac{\partial u}{\partial y} \frac{\partial \nu}{\partial y} + \frac{\partial u}{\partial z} \frac{\partial \nu}{\partial z} \right) dx dy dz \end{aligned}$$

其中 $\Sigma$ 是整个 $\Omega$ 边界面的外侧