

Příloha 681 článku [42. Technická matematika](http://www.transformacni-technologie.cz/42.html), <http://www.transformacni-technologie.cz/42.html>.

Rotace potenciálního vektorového pole

$$\begin{aligned} \operatorname{rot}(\nabla u) &= \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ \frac{\partial u}{\partial x} & \frac{\partial u}{\partial y} & \frac{\partial u}{\partial z} \end{vmatrix} = \\ &= \left(\frac{\partial^2 u}{\partial y \partial z} - \frac{\partial^2 u}{\partial z \partial y} \right) \vec{i} + \\ &+ \left(\frac{\partial^2 u}{\partial z \partial x} - \frac{\partial^2 u}{\partial x \partial z} \right) \vec{j} + \left(\frac{\partial^2 u}{\partial x \partial y} - \frac{\partial^2 u}{\partial y \partial x} \right) \vec{k} = \vec{0}. \end{aligned}$$