	Cas général (q_1, q_2, q_3)	Coordonnés cartésienne (x, y, z)	Coordonnés cyli[…] (r, ϕ, z)
Les équations	$\begin{cases} x = x(q_1, q_2, q_3) \\ y = y(q_1, q_2, q_3) \\ z = z(q_1, q_2, q_3) \end{cases}$	$\begin{cases} x = x \\ y = y \\ z = z \end{cases}$	$\begin{cases} x = r\cos\phi \\ y = r\sin\phi \\ z = z \end{cases}$
Les limites		$-\infty < x < \infty$ $-\infty < y < \infty$ $-\infty < z < \infty$	$0 \le r$ $0 \le \phi < 2\pi$ $-\infty < z < \infty$
Facteurs d'échelle	h_1 h_2 h_3	$h_1 = 1$ $h_2 = 1$ $h_3 = 1$	$h_1 = 1$ $h_2 = r$ $h_3 = 1$
Élément de déplacement	$d\vec{l} = h_1 dq_1 \hat{e}_1 + h_2 dq_2 \hat{e}_2 + h_3 dq_3 \hat{e}_3$	$d\vec{l} = dx\,\hat{x} + dy\,\hat{y} + dz\,\hat{z}$	$d\vec{l} = dr\hat{r} + rd\phi\hat{\phi} + dz\hat{z}$
Élément de surface	$ds_1 = h_2 h_3 dq_2 dq_3$ $ds_2 = h_1 h_3 dq_1 dq_3$ $ds_3 = h_1 h_2 dq_1 dq_2$	$ds_x = dydz$ $ds_y = dxdz$ $ds_z = dxdy$	$ds_r = rd\phi dz$ $ds_\phi = drdz$ $ds_z = rdrd\phi$
Élément de volume	$dV = h_1 h_2 h_3 dq_1 dq_2 dq_3$	$dV = dxdydz$	$dV = rdrd\phi dz$
Gradient	$\vec{\nabla} f = \frac{1}{h_1}\frac{\partial f}{\partial q_1}\hat{e}_1 + \frac{1}{h_2}\frac{\partial f}{\partial q_2}\hat{e}_2 + \frac{1}{h_3}\frac{\partial f}{\partial q_3}\hat{e}_3$	$\vec{\nabla} f = \frac{\partial f}{\partial x}\hat{x} + \frac{\partial f}{\partial y}\hat{y} + \frac{\partial f}{\partial z}\hat{z}$	$\vec{\nabla} f = \frac{\partial f}{\partial r}\hat{r} + \frac{1}{r}\frac{\partial f}{\partial \phi}\hat{\phi} + \frac{\partial f}{\partial z}$ […]
Divergence	$\vec{\nabla}.\vec{A} = \frac{1}{h_1 h_2 h_3}\left[\frac{\partial}{\partial q_1}(A_1 h_2 h_3) + \frac{\partial}{\partial q_2}(A_2 h_1 h_3) + \frac{\partial}{\partial q_3}(A_3 h_1 h_2)\right]$	$\vec{\nabla}.\vec{A} = \frac{\partial}{\partial x}A_x + \frac{\partial}{\partial y}A_y + \frac{\partial}{\partial z}A_z$	$\vec{\nabla}.\vec{A} = \frac{1}{r}\left[\frac{\partial}{\partial r}(rA_r) + \frac{\partial}{\partial \phi}\right.$ […]
Rotationnel	$\vec{\nabla} \times \vec{A} = \frac{1}{h_1 h_2 h_3}\begin{vmatrix} h_1\hat{e}_1 & h_2\hat{e}_2 & h_3\hat{e}_3 \\ \frac{\partial}{\partial q_1} & \frac{\partial}{\partial q_2} & \frac{\partial}{\partial q_3} \\ h_1 A_1 & h_2 A_2 & h_3 A_3 \end{vmatrix}$	$\vec{\nabla} \times \vec{A} = \begin{vmatrix} \hat{x} & \hat{y} & \hat{z} \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ A_x & A_y & A_z \end{vmatrix}$	$\vec{\nabla} \times \vec{A} = \frac{1}{r}\begin{vmatrix} \hat{r} & r\hat{\phi} & \hat{z} \\ \frac{\partial}{\partial r} & \frac{\partial}{\partial \phi} & \frac{\partial}{\partial z} \\ A_r & rA_\phi & A_z \end{vmatrix}$
Laplacien		$\nabla^2\Phi = \frac{\partial^2\Phi}{\partial x^2} + \frac{\partial^2\Phi}{\partial y^2} + \frac{\partial^2\Phi}{\partial z^2}$	$\nabla^2\Phi = \frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial\Phi}{\partial r}\right) + \frac{1}{r}$ […]
Vecteur position		$\vec{r} = x\,\hat{x} + y\,\hat{y} + z\,\hat{z}$	$\vec{r} = r\,\hat{r}(\theta) + z\,\hat{z}$
Vecteur position unitaire		$\hat{r} = \frac{x\,\hat{x} + y\,\hat{y} + z\,\hat{z}}{(x^2 + y^2 + z^2)^{\frac{1}{2}}}$	$\hat{r} = \frac{r\,\hat{r}(\theta) + z\,\hat{z}}{(r^2 + z^2)^{\frac{1}{2}}}$