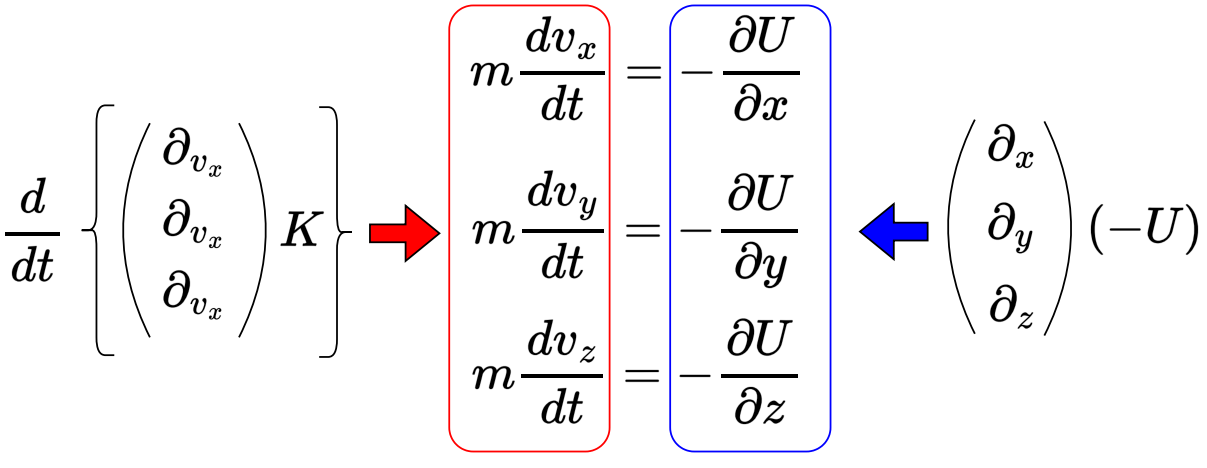
$\frac{d}{dt}\left\{\begin{pmatrix}\partial_{v_x}\\ \partial_{v_x}\\ \partial_{v_x}\end{pmatrix}K\right\}$
$m\frac{dv_x}{dt}=-\frac{\partial U}{\partial x}$
$m\frac{dv_y}{dt}=-\frac{\partial U}{\partial y}$
$m\frac{dv_z}{dt}=-\frac{\partial U}{\partial z}$
$\begin{pmatrix}\partial_x\\ \partial_y\\ \partial_z\end{pmatrix}(-U)$