

# **Derivación de vectores**

$$\frac{d}{dt} \left[ \vec{u}(t) + \vec{v}(t) \right] = \frac{d\vec{u}}{dt} + \frac{d\vec{v}}{dt}$$

$$\frac{d}{dt} \left[ c \vec{u}(t) \right] = c \frac{d\vec{u}}{dt}$$

$$\frac{d}{dt} \left[ f(t) \vec{u}(t) \right] = \frac{df}{dt} \vec{u} + f \frac{d\vec{u}}{dt}$$

$$\frac{d}{dt} \left[ \vec{u}(t) \cdot \vec{v}(t) \right] = \frac{d\vec{u}}{dt} \cdot \vec{v}(t) + \vec{u}(t) \cdot \frac{d\vec{v}}{dt}$$