



4-4-3 Total differential: Energy representation 3

Compute the partial derivative $\left(\frac{\partial u}{\partial v}\right)_s$

From $\dot{u} = T\dot{s} - P\dot{v}$ and
 $\dot{u} = \left(\frac{\partial u}{\partial s}\right)_v \dot{s} + \left(\frac{\partial u}{\partial v}\right)_s \dot{v}$ follows:

$$\left(\frac{\partial u}{\partial v}\right)_s = -P$$