

4-5-1 Total differential: Entropy representation 1

Apart from $u = u(s, v)$, the fundamental relation for the entropy, $s = s(u, v)$, can be used to describe a thermodynamic system. Provide the total differential of $s = s(u, v)$. This description is called the entropy representation.

$$ds = \left(\frac{\partial s}{\partial u}\right)_v du + \left(\frac{\partial s}{\partial v}\right)_u dv$$