**Gibbs film elasticity**

Pertains to a film element of a soap film changing in area at constant mass and is the differential change of its surface tension with relative change in area \( A \),

\[
E = A \left( \frac{\partial \sigma}{\partial A} \right)_{T,p,n_i}
\]

where \( T \) is the thermodynamic temperature, \( p \) is the pressure, and \( n_i \) is the amount of substance of the species \( i \).

**Source:**