

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:

PAC, 1972, 31, 577 (*Manual of Symbols and Terminology for Physicochemical Quantities and Units, Appendix II: Definitions, Terminology and Symbols in Colloid and Surface Chemistry*) on page 615