Thermochemical Equilibrium for Multiphysics Simulations of Nuclear Materials

Development of the corrosion modelling application Yellowjacket

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Outline

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Features of the Beamer Class

- Normal LaTeX class.

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- Easy overlays.

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- No external programs needed.

Outline

Gibbs Energy

- Developed by Josiah Willard Gibbs in 1873.

Available energy is the greatest amount of mechanical work which can be obtained from a given quantity of a certain substance in a given initial state, without increasing its total volume or allowing heat to pass to or from external bodies, except such as at the close of the processes are left in their initial condition.

Gibbs Energy

- Relates the *enthalpy* of the system to its *entropy*.

$$G = H - TS$$

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- Gibbs energy is the thermodynamic quantity that is minimised
  when a system reaches chemical equilibrium at constant
  temperature and pressure.