Dimensional Equations

$$f(\alpha) = (1-\alpha)^n(1+K_{cat}\alpha)$$

$$\frac{d\alpha}{dt} = A \cdot exp\left(\frac{-E}{RT}\right) \cdot f(\alpha)$$

$$k\nabla^2 T + \rho H_r \frac{d\alpha}{dt} = \rho C_p \frac{\partial T}{\partial t}$$

CoupledCureTimeDerivative

HeatConductionTimeDerivative

TempDiffusion

"Tconductivity"

"Hr"

$$\left[\frac{k}{\rho C_p A R_m^2}\right]\nabla^2\theta + \left[\frac{H_r}{C_p(T_{trig}-T_o)}\right]\frac{d\alpha}{d\tau} = \frac{\partial\theta}{\partial\tau}$$

$$\frac{d\alpha}{d\tau} = exp\left(\frac{-E}{R(\theta(T_{trig}-T_o)+T_o)}\right)\cdot(1-\alpha)^n(1+K_{cat}\alpha)$$

TimeDerivative

DCPDnonD