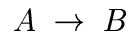


Quiz 1

Problem 1: Consider a batch reactor in which the following liquid phase reaction is occurring:



The reaction is first order with rate constant k and is exothermic. The batch reactor is a jacketed vessel and the jacket is maintained at a temperature T_j by an electrical heater. Develop a mathematical model that describes the dynamics of the concentrations of species A and B and the reactor temperature T .