

# Robust Control of an Evaporator Through Algebraic Riccati Equations and D-K Iteration

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## Abstract

Evaporation is a process that is widely used in the chemical industry and aims to concentrate a solution consisting of a non-volatile solute and a volatile solvent. In this paper the design of robust control systems for a simple effect evaporation system is presented. Two controllers were designed, the first was based on the Algebraic Riccati Equations (ARE) solutions technique and the second was derived from the D-K iteration method. To show the potentiality of the control system proposed, we present the results of some tests carried out in simulation.

**Keywords:** Robust control; Single effect evaporator; Algebraic Riccati equations; D-K iteration