

## AN ABSTRACT OF A THESIS

### MODELLING REACTIVE DISTILLATION USING THE ADVANCED CONTINUOUS SIMULATION LANGUAGE

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Master of Science in Chemical Engineering

The Advanced Continuous Simulation Language (ACSL) was used to model reactive distillation columns. A program chart was prepared for typical applications. Four models were written. The models include slow and fast reactions plus reactions where number of moles of products and reactants are equal and unequal.

These models are much easier to write with ACSL than with other languages such as Fortran. The number of lines of code of the ACSL program for these examples is typically 160, excluding comment statements. Where enthalpy balances were needed to compute varying rates of flow of liquid and vapor within the column, the constant molar rate of flow model was used to generate a set of starting conditions for the model requiring enthalpy balances. All models converged successfully to steady state conditions.

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CONTINUOUS SIMULATION LANGUAGE

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CERTIFICATE OF APPROVAL OF THESIS

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SIMULATION LANGUAGE

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