

Dynamic effects of diabatization in distillation columns - DTU Orbit (09/11/2017)

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The dynamic effects of diabatization in distillation columns are investigated in simulation emphasizing the heat-integrated distillation column (HIDiC). A generic, dynamic, first-principle model has been formulated, which is flexible enough to describe various diabatic distillation configurations. Dynamic Relative Gain Array and Singular Value Analysis have been applied in a comparative study of a conventional distillation column and a HIDiC. The study showed increased input-output coupling due to diabatization. Feasible SISO control structures for the HIDiC were also found and control-loop feasibility was demonstrated.

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