Optimizing Control for Reactor/Separator Systems with Multiple Recycles

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Abstract
A basic regulatory control configuration for a reactor/separator system with multiple material recycles is introduced. Multiple recycle systems are hierarchically decomposed into a reactor/separator system with a single material recycle. The nested hierarchical decomposition makes possible a modularized approach to the mass balance management of each component and the optimization of each sub-unit. The design approach is applied to the HDA process which comprises a PFR and separators with gas and liquid recycles.

Keywords: Process Control; Plantwide Control; Recycle Process; Optimization

References