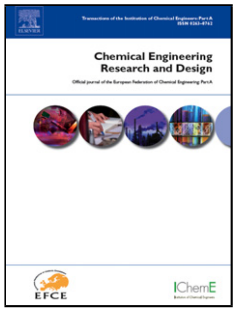

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A NUMERICAL METHOD OF CASCADE ANALYSIS AND DESIGN FOR MULTI-COMPONENT ISOTOPE SEPARATION

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ABSTRACT

A numerical method is presented for cascade analysis and design for multi-component isotope separations. A fundamental issue of interest in cascade analysis and design is the solution of the nonlinear algebraic equation system. This system describes the mass conservation and the separation property of a cascade, which provides the hydraulic state and the component distributions in the cascade. Analytical solutions for the system are only available in a few special cases. Numerical methods are preferred for many of the complicated separation situations; however, the solution process in a numerical method is carried out through iterations and is very sensitive to initial values, which often leads to the failure of the method.

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