Phase-defining constraints, as in the acetone recovery example (Appendix A).

Driving force constraints for EG mass transfer at mass/heat-exchange blocks, for example, $L-L$ exchangers, mass transfer is based on reaction, and the driving force will be

$$k_{L-L}^{r1} c_{L-L}^{\text{Lout,EO}} c_{L-L}^{\text{Lout,W}} - k_{L-L}^{r2} c_{L-L}^{\text{Lout,EO}} c^{\text{Lout,EG}} \geq 0$$

at $V-L$ exchangers, mass transfer is based on phase change:

$$c_{V-L}^{\text{Lout,EG}} - \frac{1}{k_{V-L}^{\text{Lout,EG}}} c_{V-L}^{\text{Rin,EG}} \leq 0.$$

Driving-force constraints for heat exchange at heaters and coolers.

The existence of each mass/heat and pure heat-transfer block is denoted by a binary variable and defined by mixed-integer contraints of the type (Appendix A):

$$M^{\text{exchange}} - y\mathbf{U} \leq 0,$$

where M^{exchange} for $L-L$ matches is the reacted mass, while in $V-L$ matches are based on phase change, since the reaction takes place in the liquid phase.

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Corrections

The article titled "Studies of Aggregation Effects on SO_x Removal by Limestone Powder" by Yoshio Kobayashi (December 1995, p. 2642) has 32 pages of supplementary material. The material has been filed with NAPS (file no. 05284) and can be purchased from NAPS, Microfiche Publications, P.O. Box 3513, Grand Central Station, New York, NY 10163. NAPS requires advance remittance of $11.35 for photocopies or $4.00 for microfiche in U.S. funds only. There is a $15.00 invoicing charge on all orders filled before payment. Outside U.S. and Canada, add mailing charge of $4.50 for the first 20 pages and $1.00 for each ten pages of material thereafter, or $1.75 for the first microfiche and $0.50 for each fiche thereafter.

In addition, the following corrections and addition to the above article are made.

· The sentence immediately before Eq. A3 (p. 2652) should read "From Eqs. A1 and A2, Eq. A3 can be obtained," not "From Eqs. A1 to A3 can be obtained."

· The last line of the third paragraph on the righthand column of p. 2650 should read "83% of the reaction," instead of "86% of the reaction."

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In the article titled "Wave Model for Longitudinal Dispersion: Analysis and Applications" by K. R. Westerterp et al. (September 1995, p. 2029), the following corrections are made:

Equation 33 on p. 2035 should be changed to

$$\sigma_t^2 = \sigma_{t,0}^2 + 2\left(\frac{x}{u}\right)^2 \frac{D_e}{xu}[\lambda(1+2u_a^* - 3D_e^*)$$
$$+\left[-\lambda(u_a^* - 2D_e^*) + \frac{3D_e^* - 1 - 2u_a^*}{\zeta}\right](1-e^{-\lambda\zeta}) - \frac{D_e^*}{2\zeta}(1-e^{-\lambda\zeta})^2] \tag{33}$$

In the limiting cases of $\zeta \gg 1$ and $\zeta \ll 1$, this equation takes the forms:

$$\sigma_t^2 = \sigma_{t,0}^2 + 2\left(\frac{x}{u}\right)^2 \frac{D_e}{xu}\left[1 + \frac{5}{2}\frac{D_e}{ux} - \frac{u\tau}{x}\left(1 + \frac{2u_a}{u}\right)\right]$$

$$\sigma_t^2 = \sigma_{t,0}^2 + \left(\frac{x}{u}\right)^2 \frac{D_e u^2 \tau}{[u(u+u_a)\tau - D_e]^2}$$

Equation 46 on p. 2037 should be changed to

$$\Delta t = \tau \ln(2e^{t_R/\tau} - 1) - t_R$$