No. of trays	= 25	Relative volatility	= 2
Feed tray	= 12	Distillate flow	= 0.5
Feed composition	= 0.5	Bottoms flow	= 0.5
Top composition	= 0.995	Tray holdup	= 0.5
Bottom composition	= 0.005	Condenser and	
Reflux	= 1.477	Bottoms holdups	= 0.5
Boilup	= 1.977		

The assumptions made in deriving the dynamic model are:
- Constant relative volatility
- 100% stage efficiency
- Immediate vapor and liquid response
- Perfect level control on reflux drum and column base.

With those assumptions, the dynamic model is described by the following equations:

Bottom and Reboiler

$$M_b \frac{dx_b}{dt} = L_1 x_1 - B x_b - V y_b$$

Condenser and Accumulator

$$M_d \frac{dx_d}{dt} = V y_{nt} - R x_d - D x_d$$

Feed Tray

$$M_{nf} \frac{dx_{nf}}{dt} = V(y_{nf-1} - y_{nf}) + L_{nf+1} x_{nf+1} - L_{nf} x_{nf} + F z_f$$

Top Tray

$$M_{nt} \frac{dx_{nt}}{dt} = V(y_{nt-1} - y_{nt}) + R x_d - L_n x_{nt}$$

Other Trays

$$M_i \frac{dx_i}{dt} = V(y_{i-1} - y_i) + L_{i+1} x_{i+1} - L_i x_i$$

where

$$L_i = \begin{cases} R & i > nf \\ R + F & i \leq nf \end{cases}$$

$$y_i = \frac{\alpha x_i}{1 + (\alpha - 1) x_i}$$

Corrections

In the article titled "Two-Phase Concurrent Flow in Packed Beds" (1961, Vol. 7, p. 231) by Larkin et al., Eq. 23 on p. 237 contains a typographical error. Instead of -0.774, the first term should be -0.744 as correctly given with the upper curve in Figure 7. (Proof: At $\chi = 10$ and 12.33, the correct equation using -0.744 as its first term gives $R_l = 0.4699$ and 0.5001 which agrees with the values read from the solid curve in the upper half of Figure 7. If -0.774 were used as the first term in Eq. 23, the calculated values will be $R_l = 0.4385$ and 0.4669 which fall below the solid curve.)

This article is a significant contribution and is very useful for packed-bed reactor designs in refineries.