

Zu 2) • für $1 \leq i \leq k-1$ gilt: // Flussgleichungen

$$\begin{aligned} \tilde{\lambda}_i &= \tilde{\lambda}_i + \sum_{j=1}^k \tilde{\lambda}_j \tilde{r}_{ji} \\ &= \tilde{\lambda}_i + \underbrace{\sum_{j=1}^{k-1} \tilde{\lambda}_j \tilde{r}_{ji}}_{(IV)} + \underbrace{\tilde{\lambda}_k \tilde{r}_{ki}}_{(I)} \\ &= \tilde{\lambda}_i + \sum_{j=1}^{k-1} \tilde{\lambda}_j \tilde{r}_{ji} + \tilde{\lambda}_k \frac{\sum_{k=K}^J \lambda_k r_{ki}}{\sum_{k=K}^J \lambda_k} \end{aligned}$$

Setze: $\tilde{\lambda}_i = \lambda_i, \tilde{\lambda}_i = \lambda_i$

$$\begin{aligned} \Rightarrow \lambda_i &= \lambda_i + \sum_{j=1}^{k-1} \lambda_j r_{ji} + \sum_{k=K}^J \lambda_k r_{ki} \\ &= \lambda_i + \sum_{j=1}^J \lambda_j r_{ji} \end{aligned}$$

\Rightarrow entspricht den Flussgl. des urspr. Systems $\#$

• für $i=k$ gilt

$$\tilde{\lambda}_k = \tilde{\lambda}_k + \sum \tilde{\lambda}_k \tilde{r}_{jk}$$

\Rightarrow Setze: $\tilde{\lambda}_k = \sum_{k=K}^J \lambda_k$ und $\tilde{\lambda}_j = \lambda_j, j \in \{1, \dots, k-1\}$ ein.

$$\begin{aligned} \Rightarrow \sum_{k=K}^J \lambda_k &= \sum_{k=K}^J \lambda_k + \sum_{j=1}^{k-1} \lambda_j \underbrace{\sum_{k=K}^J r_{kj}}_{(II)} + \sum_{k=K}^J \lambda_k \frac{\sum_{k=K}^J \lambda_k \sum_{j=K}^J r_{kj}}{\sum_{k=K}^J \lambda_k} \\ &= \sum_{k=K}^J \left(\lambda_k + \sum_{j=1}^J \lambda_j r_{kj} \right) \end{aligned}$$

\Rightarrow entspricht den Flussgl. des urspr. Systems $\#$