

$$\mathbf{K}_1 = \begin{bmatrix} K_{11}^{(1)} & K_{12}^{(1)} & K_{13}^{(1)} & K_{14}^{(1)} \\ K_{21}^{(1)} & K_{22}^{(1)} & K_{23}^{(1)} & K_{24}^{(1)} \\ K_{31}^{(1)} & K_{32}^{(1)} & K_{33}^{(1)} & K_{34}^{(1)} \\ K_{41}^{(1)} & K_{42}^{(1)} & K_{43}^{(1)} & K_{44}^{(1)} \end{bmatrix} \quad \mathbf{K}_2 = \begin{bmatrix} 3 \\ 4 \\ 1 \\ 2 \end{bmatrix}$$

$$\begin{bmatrix}
 & & & & & \\
 & 1 & 2 & & 5 & 6 \\
 \boxed{K_{11}^{(2)}} & \boxed{K_{12}^{(2)}} & K_{13}^{(2)} & K_{14}^{(2)} & 1 \\
 \boxed{K_{21}^{(2)}} & \boxed{K_{22}^{(2)}} & K_{23}^{(2)} & K_{24}^{(2)} & 2 \\
 K_{31}^{(2)} & K_{32}^{(2)} & K_{33}^{(2)} & K_{34}^{(2)} & 5 \\
 K_{41}^{(2)} & K_{42}^{(2)} & K_{43}^{(2)} & K_{44}^{(2)} & 6
 \end{bmatrix}$$

$$\mathbf{K}_3 = \begin{bmatrix} K_{11}^{(3)} & K_{12}^{(3)} & K_{13}^{(3)} & K_{14}^{(3)} \\ K_{21}^{(3)} & K_{22}^{(3)} & K_{23}^{(3)} & K_{24}^{(3)} \\ K_{31}^{(3)} & K_{32}^{(3)} & K_{33}^{(3)} & K_{34}^{(3)} \\ K_{41}^{(3)} & K_{42}^{(3)} & K_{43}^{(3)} & K_{44}^{(3)} \end{bmatrix}$$

The matrix \mathbf{K}_3 is shown with a red cloud border around the top-right 2x2 block. The elements $K_{33}^{(3)}$ and $K_{34}^{(3)}$ are highlighted in blue, while $K_{34}^{(3)}$ and $K_{44}^{(3)}$ are highlighted in orange. A dashed box encloses the bottom-right 2x2 submatrix $\begin{bmatrix} K_{33}^{(3)} & K_{34}^{(3)} \\ K_{43}^{(3)} & K_{44}^{(3)} \end{bmatrix}$. The columns are labeled 7, 8, 1, 2 at the top, and the rows are labeled 7, 8, 1, 2 on the right.

$$\mathbf{S} = \begin{bmatrix} K_{33}^{(1)} + K_{11}^{(2)} + K_{33}^{(3)} & K_{34}^{(1)} + K_{12}^{(2)} + K_{34}^{(3)} \\ K_{43}^{(1)} + K_{21}^{(2)} + K_{43}^{(3)} & K_{44}^{(1)} + K_{22}^{(2)} + K_{44}^{(3)} \end{bmatrix}$$