

$$\mathbb{A} = \begin{pmatrix} \begin{array}{c|c|c} \xleftrightarrow{m_1} & & \xleftrightarrow{m_q} \\ \hline A_{1,1} & \cdots & A_{1,q} \\ \hline \vdots & & \vdots \\ \hline A_{p,1} & \cdots & A_{p,q} \end{array} \end{pmatrix}$$

Diagram illustrating the structure of matrix \mathbb{A} . The matrix is partitioned into blocks $A_{i,j}$ where i ranges from 1 to p and j ranges from 1 to q . The dimensions are indicated by blue double-headed arrows: n_1 for the first row block, n_p for the last row block, m_1 for the first column block, and m_q for the last column block.

$$\text{et } \mathbb{B} = \begin{pmatrix} \begin{array}{c|c|c} \xleftrightarrow{s_1} & & \xleftrightarrow{s_r} \\ \hline B_{1,1} & \cdots & B_{1,r} \\ \hline \vdots & & \vdots \\ \hline B_{q,1} & \cdots & B_{q,r} \end{array} \end{pmatrix}$$

Diagram illustrating the structure of matrix \mathbb{B} . The matrix is partitioned into blocks $B_{i,j}$ where i ranges from 1 to q and j ranges from 1 to r . The dimensions are indicated by blue double-headed arrows: m_1 for the first row block, m_q for the last row block, s_1 for the first column block, and s_r for the last column block.