

$$\begin{array}{c} \text{ROI}_1 \\ \text{ROI}_2 \\ \vdots \\ \text{ROI}_p \end{array} \left\{ \begin{array}{c} \begin{array}{c} I_1 \quad I_2 \quad I_3 \quad I_4 \quad \dots \quad I_m \\ \hat{A}_{12}^{(1)} \quad \hat{A}_{12}^{(2)} \quad \hat{A}_{12}^{(3)} \quad \hat{A}_{12}^{(4)} \quad \dots \quad \hat{A}_{12}^{(m)} \\ \hat{A}_{13}^{(1)} \quad \hat{A}_{13}^{(2)} \quad \hat{A}_{13}^{(3)} \quad \hat{A}_{13}^{(4)} \quad \dots \quad \hat{A}_{13}^{(m)} \\ \vdots \quad \vdots \quad \vdots \quad \vdots \quad \dots \quad \vdots \\ \hat{A}_{1p}^{(1)} \quad \hat{A}_{1p}^{(2)} \quad \hat{A}_{1p}^{(3)} \quad \hat{A}_{1p}^{(4)} \quad \dots \quad \hat{A}_{1p}^{(m)} \end{array} \\ \hline \begin{array}{c} \hat{A}_{21}^{(1)} \quad \hat{A}_{21}^{(2)} \quad \hat{A}_{21}^{(3)} \quad \hat{A}_{21}^{(4)} \quad \dots \quad \hat{A}_{21}^{(m)} \\ \hat{A}_{23}^{(1)} \quad \hat{A}_{23}^{(2)} \quad \hat{A}_{23}^{(3)} \quad \hat{A}_{23}^{(4)} \quad \dots \quad \hat{A}_{23}^{(m)} \\ \vdots \quad \vdots \quad \vdots \quad \vdots \quad \dots \quad \vdots \\ \hat{A}_{2p}^{(1)} \quad \hat{A}_{2p}^{(2)} \quad \hat{A}_{2p}^{(3)} \quad \hat{A}_{2p}^{(4)} \quad \dots \quad \hat{A}_{2p}^{(m)} \end{array} \\ \hline \begin{array}{c} \vdots \quad \vdots \quad \vdots \quad \vdots \quad \dots \quad \vdots \\ \hat{A}_{p1}^{(1)} \quad \hat{A}_{p1}^{(2)} \quad \hat{A}_{p1}^{(3)} \quad \hat{A}_{p1}^{(4)} \quad \dots \quad \hat{A}_{p1}^{(m)} \\ \hat{A}_{p2}^{(1)} \quad \hat{A}_{p2}^{(2)} \quad \hat{A}_{p2}^{(3)} \quad \hat{A}_{p2}^{(4)} \quad \dots \quad \hat{A}_{p2}^{(m)} \\ \vdots \quad \vdots \quad \vdots \quad \vdots \quad \dots \quad \vdots \\ \hat{A}_{p,p-1}^{(1)} \quad \hat{A}_{p,p-1}^{(2)} \quad \hat{A}_{p,p-1}^{(3)} \quad \hat{A}_{p,p-1}^{(4)} \quad \dots \quad \hat{A}_{p,p-1}^{(m)} \end{array} \end{array} \right\} = X$$