

$$\begin{bmatrix} M_{11} & M_{12} & \dots & M_{1n} \\ M_{21} & M_{22} & \dots & M_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ M_{m1} & M_{m2} & \dots & M_{mn} \end{bmatrix} \rightarrow \begin{bmatrix} U_{11} & U_{12} & \dots & U_{1m} \\ U_{21} & U_{22} & \dots & U_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ U_{m1} & U_{m2} & \dots & U_{mm} \end{bmatrix} \begin{bmatrix} \Sigma_{11} & 0 & \dots & 0 \\ 0 & \Sigma_{22} & \dots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \dots & \Sigma_{mn} \end{bmatrix} \begin{bmatrix} V_{11} & V_{12} & \dots & V_{1n} \\ V_{21} & V_{22} & \dots & V_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ V_{n1} & V_{n2} & \dots & V_{nn} \end{bmatrix}^\dagger$$