

Compressed data
Measurement (Y)

$\begin{bmatrix} y_0 \\ y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \end{bmatrix} = \begin{bmatrix} \text{(Using in sampling)} \\ \text{Measurement matrix} \end{bmatrix} \times \begin{bmatrix} x_0 \\ x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \\ x_6 \\ x_7 \\ x_8 \\ x_9 \\ x_{10} \\ x_{11} \\ x_{12} \\ x_{13} \\ x_{14} \\ x_{15} \end{bmatrix}$

$M \times 1$ $M \times N$

Image vector
signal X

$\begin{bmatrix} x_0 \\ x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \\ x_6 \\ x_7 \\ x_8 \\ x_9 \\ x_{10} \\ x_{11} \\ x_{12} \\ x_{13} \\ x_{14} \\ x_{15} \end{bmatrix} = \begin{bmatrix} \text{(Using in sampling)} \\ \text{Measurement matrix} \end{bmatrix} \times \begin{bmatrix} \text{(Using in reconstruction)} \\ \text{Sensing matrix } (M \times N) \end{bmatrix} \times \begin{bmatrix} \hat{\theta} \end{bmatrix}$

$N \times 1$

$\begin{bmatrix} \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \\ \hat{\theta} \end{bmatrix} = \begin{bmatrix} \text{(Using in reconstruction)} \\ \text{Transform matrix} \end{bmatrix} \times \begin{bmatrix} \hat{\theta} \end{bmatrix}$

$N \times 1$
Transform domain