

$$d_1 = m_1 p_1 + m_2 p_1 + m_3 p_1$$

$$d_2 = m_4 p_1 + m_5 p_1 + m_6 p_1$$

$$d_7 = m_3 \sqrt{2} + 0m_1 + 0m_2 \dots$$

($\sqrt{p_1^2 + p_2^2} = p$)

$$\begin{pmatrix} d_1 \\ d_2 \\ \vdots \\ d_N \end{pmatrix}_{N \times 1} = G \begin{pmatrix} m_1 \\ m_2 \\ m_3 \\ m_4 \\ m_5 \\ m_6 \\ m_7 \\ m_8 \\ m_9 \end{pmatrix}_{K \times 1}$$

Matrix G is shown as:

$$\begin{pmatrix} 1 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 \\ 1 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ 0 & 0 & \sqrt{2} & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & \sqrt{2} & 0 & 0 & 0 & 0 & \sqrt{2} & 0 & 0 \end{pmatrix}_{N \times K}$$

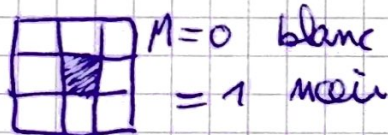
$$d_8 = m_2 \sqrt{2} + m_6 \sqrt{2} \dots$$

② $d = G M \Rightarrow M^{\text{est}} = G^{-g} (d + \epsilon)$

(SVD) \uparrow bruit

$u = \text{rand}() * \sigma$ \uparrow sigma

Spike model



il faut comparer M^{est} avec le Model exacte

TD 1:

$$C_m = \begin{pmatrix} C_{11} & C_{12} & C_{13} \\ C_{21} & C_{22} & C_{23} \\ C_{31} & C_{32} & C_{33} \end{pmatrix}$$

$$M_1 + M_2 \Rightarrow C_m^p = \begin{pmatrix} C_{11} & C_{12} \\ C_{21} & C_{22} \end{pmatrix}$$

$$M_2 + M_3 \Rightarrow C_m^p = \begin{pmatrix} C_{22} & C_{23} \\ C_{32} & C_{33} \end{pmatrix}$$

$$M_1 + M_3 \Rightarrow C_m^p = \begin{pmatrix} C_{11} & C_{13} \\ C_{31} & C_{33} \end{pmatrix}$$

$$M^{LS} \pm \Delta M \approx M^{LS} \pm \sqrt{\Delta \chi^2_{\nu=2}} \sqrt{\text{diag}(C_m)} \quad p=0,95$$

$$M_{\text{rest}} = G^{-1} \cdot d \quad \text{obd}$$

$$d^p = G \cdot M_{\text{rest}} + \varepsilon$$

$$M_{\text{rest}} = G^{-1} d^p$$

$$\rightarrow y = M_1 + M_2 x$$

