

$\mathbf{C}^i$  = block-circulant matrix of  $\mathbf{h}^i$

$$\begin{array}{c}
 \left( \begin{array}{cccc}
 \mathbf{h}_1^5 & \mathbf{h}_N^5 & \dots & \mathbf{h}_2^5 \\
 \mathbf{h}_2^5 & \mathbf{h}_1^5 & & \vdots \\
 \vdots & \mathbf{h}_2^5 & & \vdots \\
 & \vdots & & \mathbf{h}_N^5 \\
 \mathbf{h}_N^5 & \mathbf{h}_{N-1}^5 & \dots & \mathbf{h}_1^5
 \end{array} \right)
 \end{array}
 \mathbf{C}^6
 \begin{array}{c}
 \left( \begin{array}{ccc}
 \mathbf{C}^1 & \mathbf{C}^2 & 0 \\
 \hdashline
 0 & \mathbf{C}^3 & \mathbf{C}^4
 \end{array} \right)
 \end{array}
 \begin{array}{c}
 \left( \begin{array}{c}
 \mathbf{h}^6 \\
 \vdots \\
 \mathbf{h}^5 \\
 \vdots \\
 \mathbf{h}^4 \\
 \vdots \\
 \mathbf{h}^3 \\
 \vdots \\
 \mathbf{h}^2 \\
 \vdots \\
 \mathbf{h}^1
 \end{array} \right)
 \approx
 \left( \begin{array}{c}
 \mathbf{y}
 \end{array} \right)
 \end{array}$$

Dictionary  $\mathbf{D}$