

$$\mathbf{A}_{L \times L} = \left[\begin{array}{cc|c} \mathbf{G}_{LDPC} & & \mathbf{I}_S & \mathbf{Z} \\ \hline & \mathbf{G}_{Half} & & \mathbf{I}_H \\ \hline & & \mathbf{G}_{LT} & \end{array} \right]$$