

$$A = \begin{bmatrix} \frac{\partial h_i}{\partial r_1} & 0 \\ 0 & \frac{\partial h_i}{\partial r_1} \\ \frac{\partial h_i}{\partial r_2} & 0 \\ 0 & \frac{\partial h_i}{\partial r_2} \end{bmatrix}$$

$$B = \begin{bmatrix} \frac{\partial h_i}{\partial r_1} & 0 \\ 0 & \frac{\partial h_i}{\partial r_1} \\ \frac{\partial h_i}{\partial r_2} & 0 \\ 0 & \frac{\partial h_i}{\partial r_2} \end{bmatrix}$$