

$$A = \begin{bmatrix} \frac{\partial h_i}{\partial r_1} & 0 \\ 0 & \frac{\partial h_i}{\partial r_1} \\ \frac{\partial h_i}{\partial r_2} & 0 \\ 0 & \frac{\partial h_i}{\partial r_2} \end{bmatrix} \quad B = \begin{bmatrix} \frac{\partial h_i}{\partial r_1} & 0 \\ 0 & \frac{\partial h_i}{\partial r_1} \\ \frac{\partial h_i}{\partial r_2} & 0 \\ 0 & \frac{\partial h_i}{\partial r_2} \end{bmatrix} \quad C = \begin{pmatrix} \frac{\partial h_i}{\partial r_1} + 0 \\ 0 + \frac{\partial h_i}{\partial r_1} \\ \frac{\partial h_i}{\partial r_2} + 0 \\ 0 + \frac{\partial h_i}{\partial r_2} \end{pmatrix}$$