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