ECC2025: Simulation Parameters

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$$W_{g,1}^* =$$

$$\begin{bmatrix} \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} \\ 0 & 0 & 0 & 0 & 0 & -1 & 0 & 0 & 0 \\ 0.0300 & 0 & 0 & 0 & 0 & 0 & 0.9995 & 0 & 0 \\ -0.9995 & 0 & 0 & 0 & 0 & 0 & 0.0300 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0.0350 & 0 & 0 & 0 & 0 & 0 & -0.9994 & 0 \\ 0 & -0.9994 & 0 & 0 & 0 & 0 & 0 & -0.0350 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0.0400 & 0 & 0 & 0 & 0 & 0 & 0.9992 \\ 0 & 0 & -0.9992 & 0 & 0 & 0 & 0 & 0 & 0.0400 \end{bmatrix}$$

$$W_{g,2}^* =$$

$$\begin{bmatrix} -0.0010 & -0.0002 & 0 & -0.0043 & 0.4751 & 0.0411 & 0.0022 & 0 & 0.8790 \\ 0.0250 & 0 & 0 & 0 & 0 & -0.9937 & 0.0987 & -0.0003 & 0.0462 \\ -0.9997 & -0.0002 & 0 & 0 & 0 & -0.0249 & 0.0025 & 0 & 0 \\ \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} \\ 0 & 0 & 0 & 0.9997 & -0.0181 & 0.0007 & 0 & 0 & 0.0147 \\ 0 & -0.0350 & 0 & 0 & 0 & 0.0984 & 0.9945 & 0.0001 & -0.0071 \\ -0.0002 & 0.9994 & 0 & 0 & 0 & 0.0035 & 0.0349 & 0 & 0 \\ 0.0005 & 0.0001 & 0 & 0.0230 & 0.8798 & -0.0222 & -0.0012 & 0 & -0.4744 \\ 0 & 0 & 0.0400 & 0 & 0 & 0.0003 & 0.0001 & -0.9992 & 0 \\ 0 & 0 & -0.9992 & 0 & 0 & 0 & 0 & -0.0400 & 0 \end{bmatrix}$$

$$W_{g,3}^* =$$

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0.0250 & 0 & 0 & 0 & 0 & 0 & 0.9997 & 0 & 0 \\ -0.9997 & 0 & 0 & 0 & 0 & 0 & 0.0250 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0.0300 & 0 & 0 & 0 & 0 & 0 & -0.9995 & 0 \\ 0 & -0.9995 & 0 & 0 & 0 & 0 & 0 & -0.0300 & 0 \\ \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} & \mathbf{0}_{3\times1} \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0.0400 & 0 & 0 & 0 & 0 & 0 & 0.9992 \\ 0 & 0 & -0.9992 & 0 & 0 & 0 & 0 & 0 & 0.0400 \end{bmatrix}$$

$$W_{g,4}^* =$$

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0.0250 & 0 & 0 & 0 & 0 & 0 & 0.9997 & 0 & 0 \\ -0.9997 & 0 & 0 & 0 & 0 & 0 & 0.0250 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0.0300 & 0 & 0 & 0 & 0 & 0 & -0.9995 & 0 \\ 0 & -0.9995 & 0 & 0 & 0 & 0 & 0 & -0.0300 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0.0350 & 0 & 0 & 0 & 0 & 0 & 0.9994 \\ 0 & 0 & -0.9994 & 00 & 0 & 0 & 0 & 0.0350 & \end{bmatrix}$$

$$L_1^\top = \begin{bmatrix} -4.9999 & 0.1973 & -2.8718 & \mathbf{0}_{1\times 9} \\ -0.9989 & 9.9999 & -223.9988 & \mathbf{0}_{1\times 9} \end{bmatrix},$$

$$L_2^\top = \begin{bmatrix} \mathbf{0}_{1\times 3} & -4.9999 & -0.1375 & 1.5393 & \mathbf{0}_{1\times 6} \\ \mathbf{0}_{1\times 3} & -1.0013 & 6.6666 & -135.1103 & \mathbf{0}_{1\times 6} \end{bmatrix},$$

$$L_3^\top = \begin{bmatrix} \mathbf{0}_{1\times 6} & -4.9990 & -0.3805 & 3.3409 & \mathbf{0}_{1\times 3} \\ \mathbf{0}_{1\times 6} & -1.0054 & 4.2847 & -85.2169 & \mathbf{0}_{1\times 3} \end{bmatrix},$$

$$L_4^\top = \begin{bmatrix} \mathbf{0}_{1\times 9} & -4.9946 & -0.6838 & 4.7593 \\ \mathbf{0}_{1\times 9} & -1.0144 & 2.4946 & -55.2195 \end{bmatrix}.$$