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FACSIMILE TRANSMITTAL SHEET

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☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

$$R_6^0 = R_1^0 R_2^1 R_3^2 R_4^3 R_5^4 R_6^5 = R_{rpy}$$

$$R_6^0 = R_3^0 R_6^3 = R_{rpy}$$

$$R_6^3 = \left(R_3^0\right)^T R_{rpy}$$

$$A_B R_{XYZ} = R_z(\alpha) R_y(\beta) R_x(\gamma) \Rightarrow \text{extrinsic}$$

$$= \begin{bmatrix} r_{11} & r_{12} & r_{13} \\ r_{21} & r_{22} & r_{23} \\ r_{31} & r_{32} & r_{33} \end{bmatrix} \Rightarrow$$

$$\beta = \text{atan2}\left(-r_{31}, \sqrt{r_{11}^2 + r_{21}^2}\right)$$

$$\gamma = \text{atan2}(r_{32}, r_{33})$$

$$\alpha = \text{atan2}(r_{21}, r_{11})$$

After applying $R_{corr}$, we get $\theta_4$, $\theta_5$, and $\theta_6$.

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