Comparison of Angles from Gait Lab and EXL IMU Sensors after Interpolation of the data

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Comparison

$$\alpha_{acc}(t) = \sphericalangle_{2d}\left(\begin{bmatrix}\tilde{a}_1(t)\cdot x_1\\ \tilde{a}_1(t)\cdot y_1\end{bmatrix}, \begin{bmatrix}\tilde{a}_2(t)\cdot x_2\\ \tilde{a}_2(t)\cdot y_2\end{bmatrix}\right) \tag{1}$$

$$\alpha_{acc+gyr}(t) = \lambda * \alpha_{acc}(t) + (1-\lambda)(\alpha_{acc+gyr}(t-\Delta t) + \alpha_{gyr}(t) - \alpha_{gyr}(t-\Delta t)) \tag{2}$$

$$where, \lambda \in [0,1] \tag{3}$$