

Calibration 2

Methods

Changes made compared to Calibration 1:

- Changed the normalization values to the absolute highest min or max value in the robot at the min and max load applied in the simulations. Instead of the min and max values in the full cadaveric laxity data.
- We also had to change the error calculation since some of the errors exceeded the original 1.4 normalized value due to a smaller normalization value. If >1.4 the error value is 1.4.
- Next to that, we used smaller bounds for the prestretch values (0.85 - 1.05)

The Python scripts used for calibration can be found in folder: *Python scripts - Calibration 2

Results

The calibration results can be found in: Results calibration 2.xlsx

Almost all VV normalized errors were 1.4 after calibration, which means the normalized error was higher than 1.4. This means the error was higher than the normalization value. We decreased the normalization value which caused this. Due to this we had to change the error values in the optimization.

The error values stayed high and the Prestretch values were going to the bounds.

We decided to stop these calibrations and start new ones where the stiffness of the ligaments are also able to change.

We should set the errors when the simulation has not run completely to 2+. If the first simulation failed \rightarrow error = 4.