

Major points of extensions

- Static friction modeling to the dynamic model is added.
- The conversion of the friction model into linear-in-parameters form is introduced.
- The simulation was extended with the friction model, Figure 2. is modified.
- The ML estimation process, and the trajectory optimization belonging to this estimator is removed because it is computationally expensive.
- Table 2 is extended with the friction parameters.
- Figure 3. is added to show the efficiency of the estimations by comparing the estimated torque vector with its measured and its nominal value.
- New items in the references.