**Static Friction Measurement Protocol**

How it works: linearly increase current until a smallest position change occurs. Write down that current. Do this at a range of positions -90:5:90.

**How to do the measurements (2\_static\_friction\_main.vi):**

1. Go to the block diagram and choose the correct Mike version in the top left corner
2. Choose negative or positive current direction
3. Move the end-effector by hand approximately to the starting position:
   1. -90° for positive
   2. 90° for negative
4. Enter a **non-existent** tdms file name and press “save data”
5. Press move to start the process
6. Wait for the profile to be finished
7. Once the whole profile is finished, the end-effector will go to 0° and continue doing measurements forever
8. Stop the data recording by pressing “save data” or stop (terminates whole program)
9. If not yet done, press stop to terminate the program. In order to start a new measurement the program has to be terminated and rerun
10. Repeat several times (I did 3 per current direction)
11. You’re done 🎉

**How to do the analysis:**

There are two main files you can use:

* Static\_Friction\_Analysis: use when you want to plot either positive or negative values
* Static\_Friction\_pos\_and\_neg: use when you want to plot positive **and** negative values

I think the second one is more important and will only describe this one in detail (the other is simpler and similar)

1. Ein Bild, das Text enthält.

   Automatisch generierte Beschreibungcreate lists of your tdms files you want to use for analysis: create one list for negative currents and one for positive currents
2. Also adjust the torque constant parameter depending on your mike version
3. Ein Bild, das Text enthält.

   Automatisch generierte Beschreibungadjust the title of the plot as well as its name when saving



1. Afterwards you can run the program and you have your plot copped and in pdf format