PMDC motor exercise

See in motordrive.pdf

1. Armature resistance Ra

* Done
  + tab with values of the current and the voltage, plot voltage versus current
  + motor resistance
* Missing
  + Diagramm of the test setup
  + is it linear?
    - The plot is globaly linear, without taking account of the measurements errors
  + Why is it necessary to make the measurements in steady state?
    - As it is a DC motor, if the motor doesn’t turn, the intern voltage will equal to 0, so we can have the real voltage at the input of the motor.

1. Armature inductance La

* done
  + measure current response to a voltage step
* missing
  + diagram of the test setup
  + plot the current vs. time
  + The transfer function from the voltage to the current is of 1rst order why?
    - Because there is only a coil with resistors, so there it’s the first order
  + How can the inductance be found if the resistance is known?
  + What is the value of the inductance?

1. Tachometer constant

OK

1. Ganerator constant

mesasurements ok

* missing
  + How can Ke be found from these measurements?

1. motor constant Ke
2. motor friction, B
3. moment of intertia I
4. time constant tau and gain