Name_____ Student number_____

Assignment 5

Consider the cantilever on pages 7-10 of the lecture notes. Effective spring coefficients k_b and k_t of the cantilever are defined by $F = k_b u$ and $T = k_t \theta$, where F and T are the resultant force and torque acting at the free end and u and θ the displacement and rotation at their point of action in the direction of the resultants. Use measured displacement-load data to find the experimental values of the spring coefficients.

Experiment: The set-up is located in Puumiehenkuja 5L (Konemiehentie side of the building). The hall is open during the office hours (9-12 and 13-16) on Wed 25.10.2023. Place a mass on the loading tray and record the readings of the displacement transducers 1 and 4 (2 and 3 are not needed). Gather enough data for finding the coefficients k_b and k_t reliably.