Oct 30

nonlinear model of Duckiebot with PID

- duckiebot_nonlinear.py

linear and nonlinear model of Duckiebot with PID

- duckiebot_linear_comparison.py

  the linear model was set different from the nonlinear

  graphs display bad result
- duckiebot_linear_comparison-rmg.py

  Prof. Romulo fixed by replacing v_l, v_r with v, omega
- duckiebot_linear_comparison_sjs.py

  based on “comparison-rmg.py”

  change the names of parameters to show clear meaning

  add explanations on the code
- duckiebot_linear_comparison_v.py

  based on “comparison-rmg.py”

  attempt to calculate v_l and v_r outside the PID controllers

  with the linearized system, v_l and v_r are the same, they cancel out

Setting values for Kp, Ki, Kd

- parameter_sweeps.py

  calculate the characteristics of the response given multiple combinations of Kp, Ki, Kd
- PID_para_calculator.py

  calculate the best Kp, Ki, Kd values for desired characteristics

pole placement of PID on both models

- duckiebot_linear_comparison-rmg_pole_placement_attempt.py

  a sample code for pole placement