Modern Heuristics Review for PID Control

P. B. de Moura Oliveira\textsuperscript{1,2}

\textsuperscript{1}Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal
\textsuperscript{2}CETAV- Centro de Estudos das Tecnologias Ambiente e Vida, Vila Real, Portugal

E-mail: oliveira@utad.pt

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Abstract: A set of modern heuristic techniques is reviewed in the context of PID control structures optimization. The selected techniques are: simulated annealing, genetic algorithm, population based incremental learning algorithm, particle swarm optimization algorithm and the differential evolution algorithm. An introduction to each algorithm is provided followed by an illustrative example based in a simulation assignment of an evolutionary algorithms course. Some conclusions are presented about the effectiveness of the reviewed heuristics based on the simulation results.

References