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Artificial immune system based optimal fractional order PID control scheme for path tracking of robot manipulator

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2 Author(s)Woorod A. Shutnan ; Turki Y. AbdallaView All Authors

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Abstract: In this paper, an optimal fractional order PID controller is designed for path tracking of robot manipulator. Clonal selection algorithm (CSA) was used to optimize the parameters of fractional order PID and conventional PID controllers. To study the effectiveness of the optimized fractional PID controller, its performance is compared with conventional PID controller. Simulation results clearly show that the performance of fractional order PID is better than PID controller in achieving accurate tracking and good robustness.

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