Abstract

In this paper, I-PD controller is designed and controller parameters are optimized using particle swarm intelligence for a First Order Lag Integrating plus Time Delayed model (FOLIPD). One of the modifications of PID controller is I-PD controller, which can be used for eliminating the proportional and derivative kick occurs during set point change. The controller parameters play the major role in obtaining the desired performance of a process and that urges the importance of selecting the most suitable parameters. The simulation results show that particle swarm optimized I-PD controller gives better performance compared to traditional Ziegler Nichols tuning technique and tuning method proposed by Arvanitis.

References

Optimization of I-PD Controller for a FOLIPD Model using Particle Swarm Intelligence

- Aidan O'Dwyer, 2006, ‘Handbook of PI and PID Controller Tuning Rules’, (2nd Edition), Published by ICP.

Index Terms

Computer Science  Control Systems

Keywords

I-pd Controller  Folipd Model  Pso (particle Swarm Optimization)  Settling Time  Rise Time
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