

## عنوان مقاله:

Optimal tuning of PID controller parameters on a DC motor based on Hybrid Big Bang-Big Crunch (HBB-BC) algorithm

## محل انتشار:

چهارمین کنفرانس بین المللی رویکردهای نوین در نگهداشت انرژی (سال: 1393)

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## خلاصه مقاله:

Tuning of PID controller parameters is an important problem in control field. In this paper, this problem has been solved and the use and comparison of various algorithms for optimizing the step response of a PID controller for a DC motor has been presented too. For the optimization the PID controllers, PSO algorithm and a new algorithm called HBB-BC have been used. PID controller tuning with these algorithms comprises of obtaining the best possible response for PID parameters for improving the speed loop response stability, performance and the steady state characteristics for example; over shoot percentage, rise time and settling time. The simulation results show that the PID controller designed by HBB-BC demonstrates better result than PSO technique

## کلمات کلیدی:

hybrid big bang-big crunch, particle swarm optimization, big bang-big crunch, PID controller, DC motor

## لینک ثابت مقاله در پایگاه سیویلیکا:

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