World Academy of Science, Engineering and Technology
International Journal of Electrical and Computer Engineering
Vol:8, No:05, 2014

Controller Design Using GA for SMC Systems

Authors : Susy Thomas, Sajju Thomas, Varghese Vaidyan

Abstract : This paper considers SMCs using linear feedback with switched gains and proposes a method which can minimize the pole perturbation. The method is able to enhance the robustness property of the controller. A pre-assigned neighborhood of the 'nominal' positions is assigned and the system poles are not allowed to stray out of these bounds even when parameters variations/uncertainties act upon the system. A quasi SMM is maintained within the assigned boundaries of the sliding surface.

Keywords : parameter variations, pole perturbation, sliding mode control, switching surface, robust switching vector
Conference Title : ICECECE 2014 : International Conference on Electrical, Computer, Electronics and Communication Engineering
Conference Location : Amsterdam, Netherlands
Conference Dates : May 15-16, 2014