عنوان مقاله:

An Optimal Controller designing for controlling the power in a Bidirectional Inductive Power Transfer Systems

محل انتشار:

اولین کنفرانس ملی رویکردهای نو در مهندسی برق و کامپیوتر (سال: 1395)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Hadi Doostizadeh - *Msc,Control Engineering, Department of Control Engineering, Boroujerd Branch, Islamic Azad University Boroujerd, Iran.*

Amin farmanbordar - *Ph.D,Control Engineering, Department of Control Engineering, Boroujerd Branch, Islamic Azad University Boroujerd, Iran*

Mohammad Doostizadeh - *Ph.D, Student, Power Engineering, Department of Electrical Engineering, Khomein Branch,Islamic Azad UniversityKhomein, Iran.*

خلاصه مقاله:

Bidirectional inductive power transfer (IPT) systems are suitable for applications that require wireless and two-way power transfer. However, these systems are high-order resonant networks in nature and, hence, design and implementation of an optimum proportional–integral–derivative (PID) controller using various conventional methods is an onerous exercise.Further, the design of a PID controller, meeting various and demanding specifications, is a multi objective problem and direct optimization of the PID gains often lead to a nonconvex problem. To overcome the difficulties associated with the traditional PID tuning methods, so this paper A modern optimization method based on state space based system gives presentation. In this paper, the method of bach approach and dynamic Programming for optimization bidirectional inductive power transfer systems we use. Finally, we compare these two methods together. In this paper, in order to control the power of 1 kW of forward (not reverse) respectively.

کلمات کلیدی:

Contactless power transfer, inductive power transfer, bachapproach, Dynamic Programming, Optimal Controller