

Design and Implementation of a Vision-based Control for a Ball and Plate System

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Abstract

This paper discusses how to achieve the stabilization of a highly non-linear electro-mechanical system that is considered one of the most important problem that found in our life. Therefore, the paper is directed toward achieving stabilization for one of the most famous unstable non-linear electromechanical system in 2 DOF (ball and plate system) using vision-based control. In this paper we will discuss the design of vision-based control strategy for balancing ball and plate system to control ball position and ball motion track using suitable system identification methods. Also different control techniques (classical and modern) will be proposed.

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