The Application of Sliding Mode Control in Robots

Message from the Guest Editor

Control of robot systems is a challenging area of robotics. Robot systems are multivariable, highly nonlinear systems that are subject to several uncertainties and disturbances. As a result, the design of accurate mathematical models for multi-degree of freedom (DOF) robots is very difficult. Today, there is a large variety of working robots (industrial robots, service robots, social robots, underwater robots, etc.) that perform various complex tasks, for which several control techniques were developed and documented in the literature. The sliding mode control (SMC) is indeed one of the best available methodologies and has been applied with success in many robotic and other automation applications. The aim of this Special Issue of the Applied Sciences Journal is to provide a forum for the presentation of new and recent developments in the SMC methodology as applied to robots. Specifically, the Issue will consider high-quality research and review papers that deal with theoretical and application aspects of sliding mode robot control.