

Robust Stabilization of Rotational Motion of Underwater Robots against Parameter Uncertainties

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Abstract : This paper provides a robust stabilization method for rotational motion of underwater robots against parameter uncertainties. Underwater robots are expected to be used for various work assignments. The large variety of applications of underwater robots motivates researchers to develop control systems and technologies for underwater robots. Several control methods have been proposed so far for the stabilization of nominal system model of underwater robots with no parameter uncertainty. Parameter uncertainties are considered to be obstacles in implementation of the such nominal control methods for underwater robots. The objective of this study is to establish a robust stabilization method for rotational motion of underwater robots against parameter uncertainties. The effectiveness of the proposed method is verified by numerical simulations.

Keywords : robust control, stabilization method, underwater robot, parameter uncertainty

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