

Puwadon Poedaeng 2009: Quantitative Feedback Control of Hard Disk Actuator.

Master of Engineering (Mechanical Engineering), Major Field: Mechanical

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Hard disk actuator must be fast and accurate. Control design of the hard disk actuator is challenging due to uncertainty in the hard disk actuator's model, input disturbance, external vibration, sensor noise, and tight performance specification. This paper presents control design based on the quantitative feedback theory (QFT), which has not been used in any literature. QFT is a frequency-domain method. The hard-disk controller is designed on a set of uncertain model called plant template. Specifications such as disturbance rejection and tracking can be formulated in frequency domain. Both simulation and experimental results have shown the effectiveness of the controller.

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Thesis Advisor's signature

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