

Design of Torque Actuator in Hybrid Multi-DOF System with Taking into Account Magnetic Saturation

Authors : Hyun-Seok Hong, Tae-Chul Jeong, Huai-Cong Liu, Ju Lee

Abstract : In this paper, proposes to replace the three-phase SPM for tilting by a single-phase torque actuator of the hybrid multi-DOF system. If a three-phase motor for tilting SPM as acting as instantaneous, low electricity use efficiency, controllability is bad disadvantages. It uses a single-phase torque actuator has a high electrical efficiency compared, good controllability. Thus this will have a great influence on the development and practical use of the system. This study designed a single phase torque actuator in consideration of the magnetic saturation. And compared the SPM and FEM analysis and validation through testing of the production model.

Keywords : hybrid multi-DOF system, SPM, torque actuator, UAV, drone

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