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Dielectric Elastomer를 이용한 카메라 폰 AF 렌즈 구동기의 설계 및 제어

Design and Position Control of AF Lens Actuator for Mobile Phone Using Dielectric Elastomer

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Key Words : Dielectric Elastomer, AF Lens Actuator, Mobile Phone, Posiotion Control.

ABSTRACT

In the conventional AF lens actuating system the VCM actuator is used. However due to the actuating mechanism, the VCM actuator has disadvantage in miniaturizing which is essential to the actuator for the mobile device. Therefore novel type actuator is required and the one of the candidate is actuator using electoractive polymer (EAP). The EAP actuator is one of the attractive smart materials that is light and can be easily fabricated with low cost. This paper proposes an AF lens actuator for mobile phone using dielectric elastomer. The proposed actuator was designed and analyzed using finite element method. The designed actuator is verified by experiment and the position control algorithm is applied.

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