

진행파 회전형 초음파 모터의 가압력과 구동전압에 따른 공진특성의 변화 분석

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The analysis of the resonance characteristics of a traveling wave type ultrasonic motor by applying the normal force and driving voltage

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Abstract : Piezoelectric ceramics is an active element that makes stator to vibrate to generate rotational force in ultrasonic motors. In drive of ultrasonic motors, many factors that affect to the resonance characteristics of piezoelectric ceramics exist.

For example, those factors are bonding condition with elastic body, the magnitude of electric field, the normal force for frictional drive and the emission of heat due to vibration and friction and so on. Therefore, it is important to research the inclination of property variation of piezoelectric ceramics in circumstance that has complex elements.

In this paper, we focused and analyzed the resonance characteristics of ultrasonic motor due to the magnitude of the driving voltage and normal force.

Key Words : ultrasonic motor, traveling wave type motor, resonance characteristics normal force, driving voltage