인가 전압에 따른 초소형 압전 리니어모터의 동특성

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Dynamic properties of butterfly piezoelectric linear motor by applied voltage

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Abstract : A piezoelectric ultrasonic linear motor shaped with 'Butterfly' wings has been developed for thin electronics such as cellular phone and PDA. The butterfly piezoelectric transducer is simply composed of an elastic plate, which includes a tip for energy transfer and two protrusions to fix it, and two piezoelectric ceramics. Contact materials, such as a brass, and steel and alumina can make it possible to improve dynamic properties of the motors over a wide range of tribological conditions. The dynamic properties of the motor have been intensively measured and analyzed according to the applied voltage wave forms at the various frequencies. The results of numerical study and experimental investigation will be used for the future optimization of the actuator and the realization of the advanced ultrasonic motor.