

## 틸팅차량용 차륜답면형상안 설계 및 주행특성 해석

허현무<sup>†</sup> · 서정원\* · 김재훈\*\*(한국철도기술연구원)**Design and running performance analysis of wheel profile for tilting train**

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**Key Words:** Tilting Train(틸팅차량), Wheel Profile(차륜답면)

**Abstract :** For the improvement of a conventional train's speed, tilting train is under the development aiming for a maximum speed 180km/h. Compared to an existing conventional rolling-stock, tilting train could take an advantage of between 20% and 30% of speed improvement on curve sections due to the improvement of curving performance. However, this improvement creates a severe load at wheels and results in the damage of its wheel and rail, relative to the operating condition of an existing rolling-stock. Consequently, it is efficient to develop a wheel profile for tilting train to minimize its damage and satisfy the current operating qualification. This thesis presents the design of wheel profile for tilting train to prevent its damage. Conducting the geometrical contact analysis, dynamic analysis, and contact stress analysis, the effect of proposed wheel profile had been examined compared to the performance of an existing wheel profile.

## 광/자기 변위센서를 적용한 전자기 구동형 flexure hinge 스테이지

이상헌<sup>†</sup>(안동대)**A magnetic force-driven flexure hinge applying optical/magnetic displacement sensor**

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**Key Words:** Optical/magnetic sensor(광/자기 센서), Flexure hinge(탄성 힌지), Stage (스테이지)

**Abstract :** In the field of manufacture of semiconductor and flat panel display and development of scanning probe microscope the quality of product and measurement depends on the performance of precision stage. But developing precision stage is not an easy work in terms of the technique and cost due to high performance requirements and high price of the servo equipment. Therefore the flexure hinge stage using the servo parts which are available in office is proposed to reduce the production cost in this paper. The meso-scale displacement sensor using optical pick-up head of CD and hall sensor is developed and applied to the magnetic force-driven plate spring type flexure hinge stage.