

차량용 디스크 브레이크의 스켈에 대한 복소고유치해석 및
동적과도해석의 비교 연구

A Comparative Study of Complex Eigenvalue Analysis and Dynamic
Transient Analysis on Automotive Disk Brake Squeal

김주용[†](인하대학교 기계공학과)·조호준*·조종두*(인하대학교 기계공학과)
Jooyong Kim, Hojoon Cho and Chongdu Cho

Key Words : disk brake, squeal, complex eigenvalue analysis, dynamic transient analysis, friction, finite element analysis.

Abstract : Brake squeal is a high frequency noise produced when driver decelerates and/or stops the vehicle moving at low speed. There are two typical methods available for predicting squeal using finite element method, complex eigenvalue analysis and dynamic transient analysis. In this paper both analyses are performed on an automotive disk brake system in accordance with different rotor speeds, brake-line pressures, and frictional contact conditions between rotor and pads. Finally, based on these simulation results, the merits and demerits of each method are discussed.