

4. 겹판스프링댐퍼의 감쇠는 측면틈새가 작을수록 증가하며, 수직방향의 성분이 수평방향의 성분보다 더 큰 값을 가진다.
5. 겹판스프링댐퍼의 감쇠는 가진속도에 따라 감소하는 경향을 띤다.
6. 겹판스프링댐퍼의 감쇠는 오일의 점도가 클수록 높음을 알 수 있다.
7. 향후 연구과제로서 댐퍼 내부의 캐비테이션 발생이 댐퍼의 동특성에 미치는 영향에 관한 고찰과 더불어 이에 대한 댐퍼의 성능에 대한 연구와 캐비테이션 방지에 대한 설계 기법이 요구된다.

44. Vehicle Control and Performance Analysis of 4WS Passenger Cars using Robust Control Techniques

기계공학과 이 경 현
지도교수 유 삼 상

In this dissertation, a lateral control design is presented for automatic steering of active four-wheel steering (4WS) vehicles for highway driving. The linearized two degree-of freedom (2 DOF) equations for the lateral dynamics are derived using the Newton's equations. A robust controller using μ -analysis synthesis is designed for a linear model of a passenger cars moving a given path. The performance of the robust controller is then evaluated using simulation studies.

It is shown that the presented control method possesses the inherent advantages that are robust to complex uncertainty for typical driving maneuvers. Finally, the active 4WS vehicle achieves good performance for a wide range of uncertainty in the highway operating conditions.

45. Measurement of Diffuser Pump Flow Field by PIV

기계공학과 임 유 청
지도교수 이 영 호

The Present Experimental study is focused on the application of multi-point simultaneous measurement by PIV(Particle Image Velocimetry) to rotor-stator region within centrifugal turbine pump. Six different kinds of rpm(1000, 1500, 2000 and 2500) are selected as experimental condition. Optimized cross correlation identification to obtain velocity vectors is implemented by direct calculation of correlation coefficients. Fine optical setup deeply concerned with PIV performance is arranged for accurate PIV measurement of high-speed complex flow. A CCD camera which is synchronized with pulse generator was used to acquire clear original particle images at 1000, 1500, and 2000rpm. Image Intensifier CCD Camera was also arranged to cope