한국소음진동공학회 2005년도 춘계학술대회논문집, pp. 47~ 58.

MR유체를 이용한 장치의 응답특성

2005. 05

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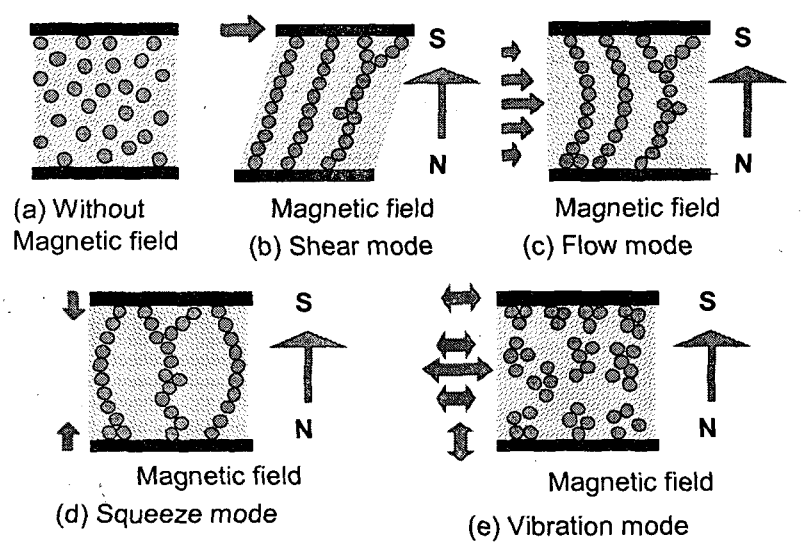
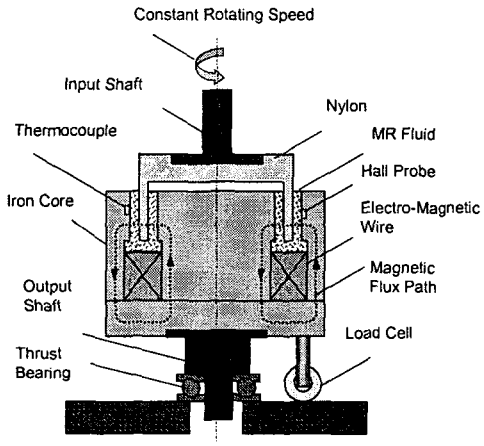
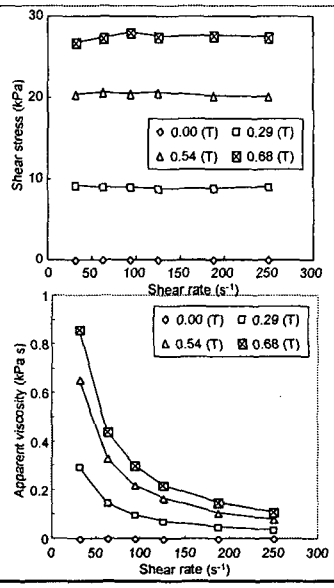
안 영공, 울산대학교

MR Effects

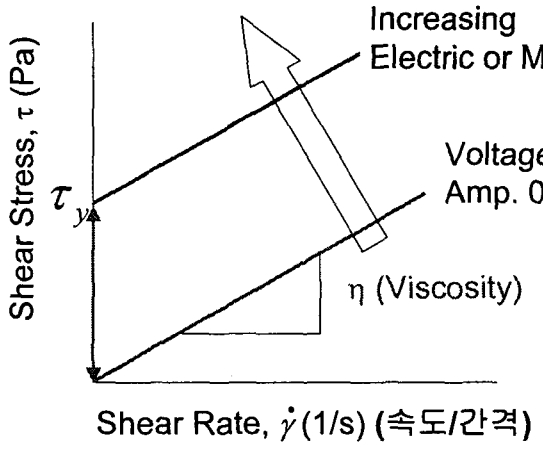


Property of MR Fluid





Property of ER and MR Fluid

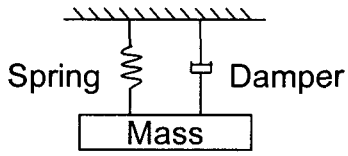


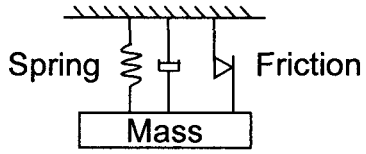
$$\tau = \tau_y + \eta\dot{\gamma}$$

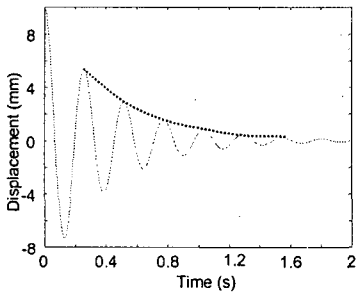
$$\eta = \tau / \dot{\gamma}$$

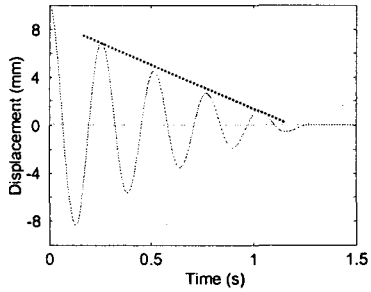
$$\tau = \eta\dot{\gamma}$$

Response of a Single Degree of Freedom System

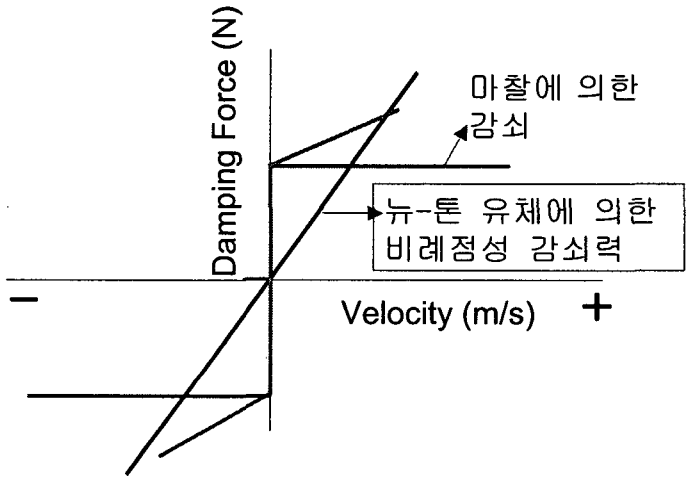




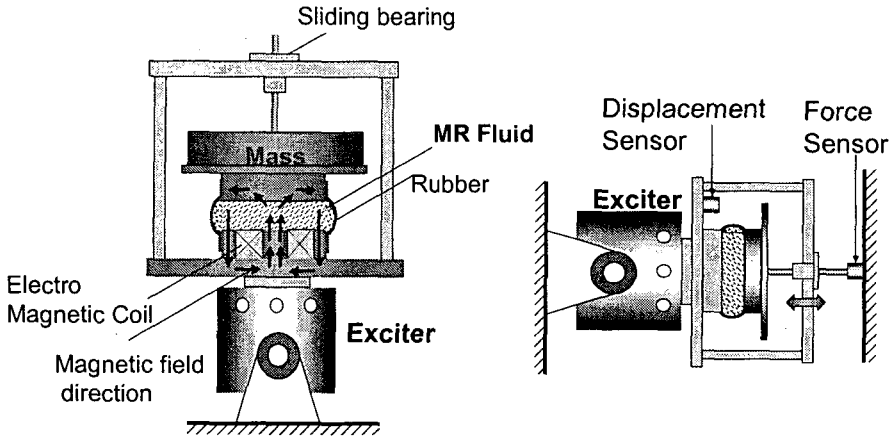




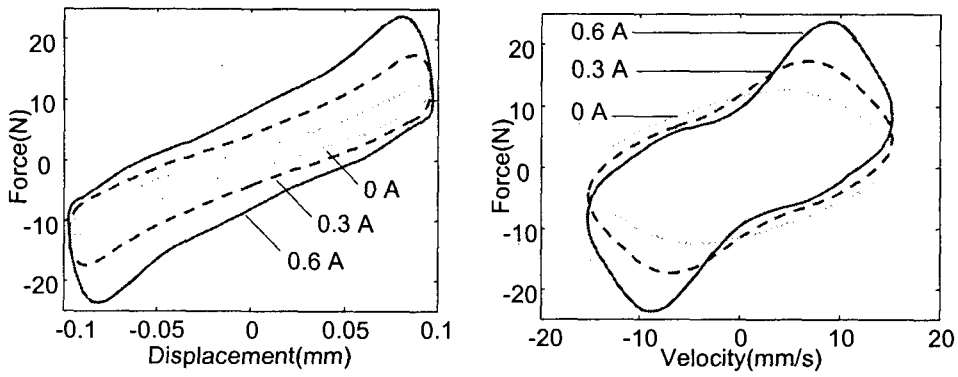
Characteristics of Smart Fluid



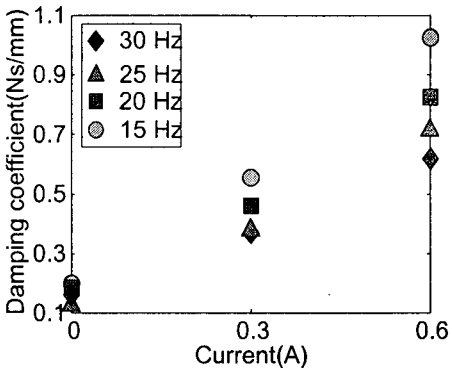
Squeeze Mode Type MR Mount

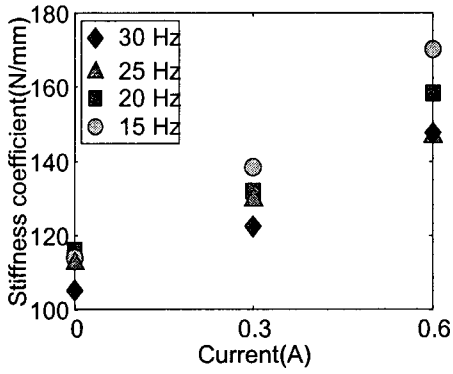


Force vs. Displacement
Force vs. Velocity

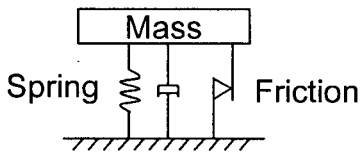


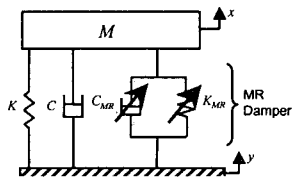
Damping & Stiffness Coefficients vs. Current

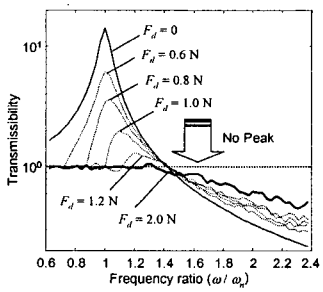


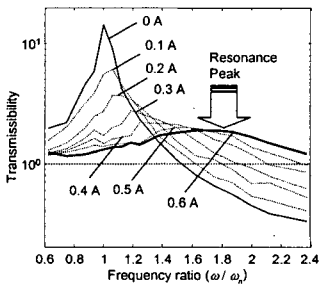


Response of a Single Degree of Freedom System

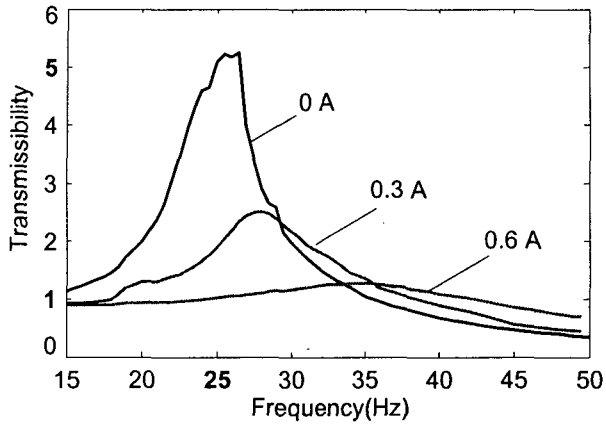




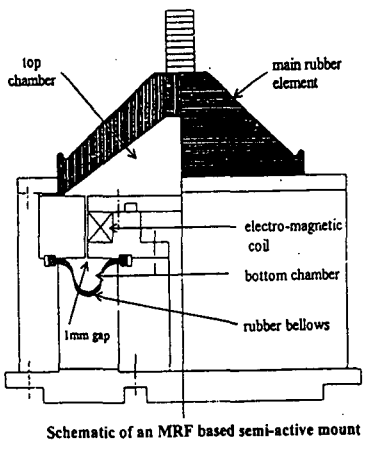




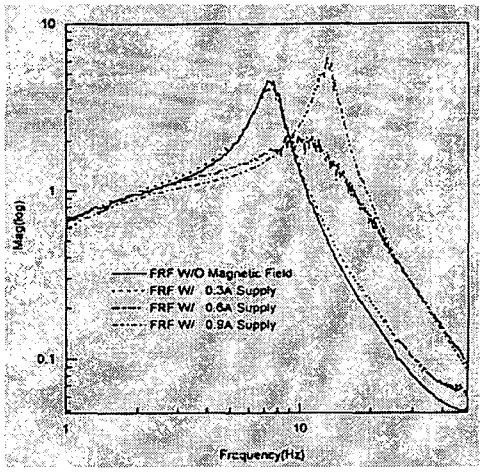
Transmissibility



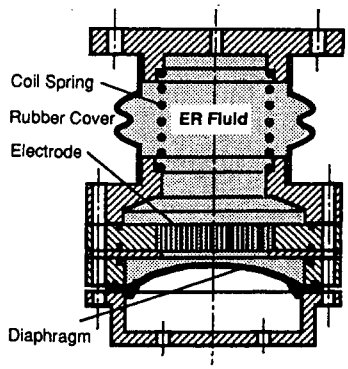
Hydraulic Mount with MR Fluid

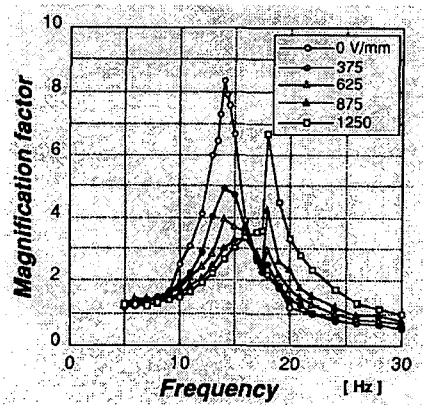


Schematic of an MRF based semi-active mount

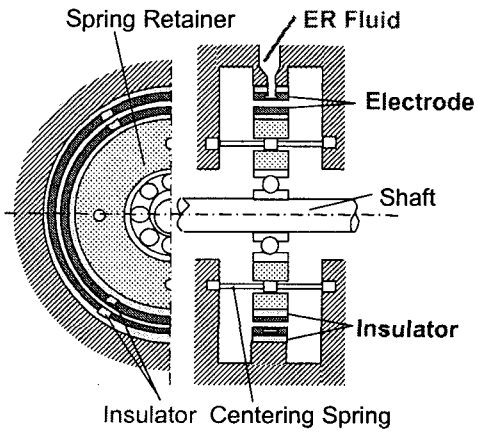


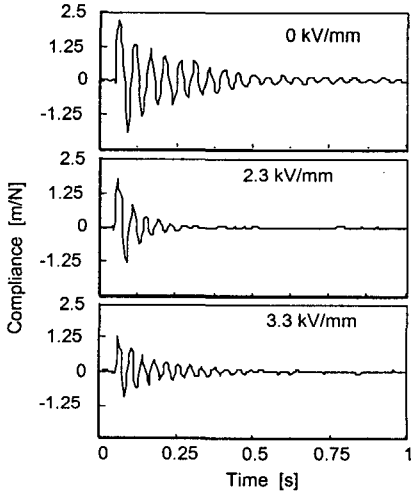
Engine Mount with ER Fluid



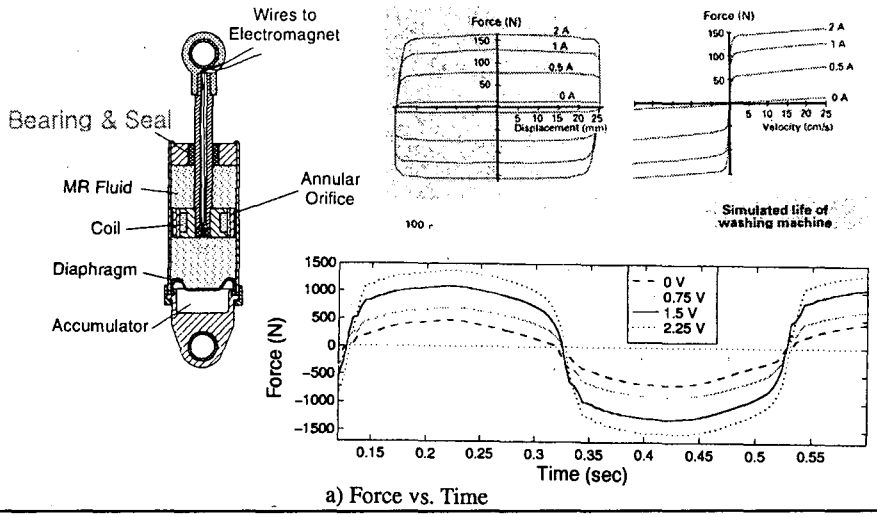


Squeeze Film Damper using ER Fluid



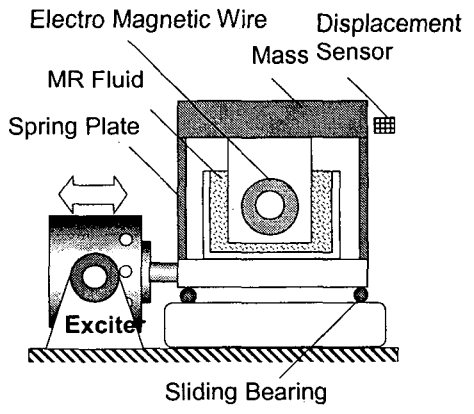


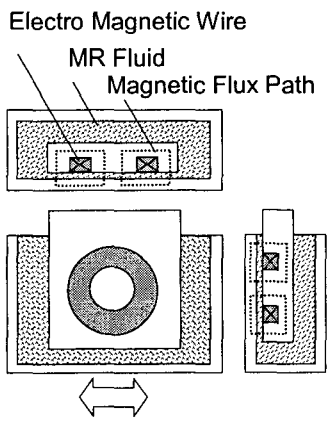
MR Damper



a) Force vs. Time

Response of a Single Degree of Freedom System





Response of a Single Degree of Freedom System