

## Documents

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**Design and material analysis of regenerative dispersion magnetorheological (MR) damper**

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**Abstract**

Magnetorheological (MR) dampers are widely applicable for vehicle suspension schemes, and MR fluid sedimentation is an indispensable problem of MR dampers. A Regenerative Dispersion MR Damper (RDMRD) under this research consists of a piston which contains piston and coil case cylinder, coil windings, piston rod, piston head cover, bobbin and one cylindrical tube to disperse MR fluids. In addition, external regeneration system has been added to generate electricity for the purpose of electricity supply in the piston. 2-D Axis symmetric model of RDMRD has been developed using Comsol Multiphysics in order to analyze power generation ability. Two magnetic field are generated inside the MR Damper, one internal piston coil and another external power producing coil. The induced magnetic field in the coil are evaluated for describing RDMRD power production capability © BEIESP.

**Author Keywords**

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