



System and Method of Damping Vibration on Coil Supports in High Performance Disk Drives with Rotary Actuators

ABSTRACT

A damping assembly (141) for the actuator (121) of high performance disk drive assembly (111) is formed from multiple materials. The damping assembly (141) is added to the actuator (121) to dampen vibration that occurs during operation of the drive. The damping assembly (141) is connected to an exterior portion of a coil region (143) of the actuator (121). The damping assembly (141) helps dampen vibration modes for coil torsion and coil bending, thereby improving dynamics settling performance to improve overall file input/output throughput performance. This also allows for a higher voice coil motor torque constant by increasing the magnet radius, thereby also improving move time, which further improves file input/output throughput performance. The overall file performance is improved by reducing settling times associated with coil torsion and coil bending modes, and allowing a higher torque constant to also improve move time. Both of these effects contribute to improving file performance.

FIG. 2.

