

Eddy Current Dampener



Purpose: To demonstrate a practical application of using eddy currents to dampen an oscillation.

Location: Room 146; shelf N2

The two balances shown above can be used to demonstrate how magnetically induced eddy currents quickly dampen any unwanted oscillation. The tan balance has an aluminum plate on its right (pointer) end that freely moves between two magnets. The gray balance does not have a magnetic dampener. With both balances zeroed, give them each a slight push to start them oscillating. The tan balance will slow down and stop almost immediately, whereas the gray one will continue to oscillate for some time.

On the tan balance, a magnetic field produces eddy currents in the aluminum plate which in turn produce a magnetic field that opposes the motion.

Our current balances on shelf E4 use a similar design.