

Closure to “Discussion of ‘Improved Concept and Model of Eddy Current Damper’ ” (2007, ASME J. Vib. Acoust., 129, p. 396)

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The author has commented that magnetic fields add vectorially and thus the addition of a second magnet results in a magnetic field with exactly twice the radial component. This is indeed true and is simply the result of the superposition of the two magnetic fields as was carried out and stated in the paper. The effect of this superposition gives the appearance of a “compressed” magnetic field. The use of the word “compressed” was intended to be descriptive, not technical.

We appreciate the author’s clarifying statements regarding the use of a magnetic material with increased magnetization, but would like to further point out that in many practical applications it is not possible to follow their conclusion. While a single magnet with twice the magnetization would achieve the same damping levels with half the volume as the published configuration, it is often not practical or possible to increase the material magnetization. Moreover, the magnetization is a material property that generally cannot be modified and thus the “improved damper” provides a method of significantly increasing the damping while holding the magnetization constant. Furthermore, the author states that “doubling the amount of magnetic material will do no more than double the useful (radial) magnetic field.” This comment is generally inaccurate and a doubling of the radial magnetic field can only be achieved with twice the magnetic material given that the configuration presented in the published article is used.