Title of demo:

The Rotating Line

Brief Description of the Phenomenon:

When a line is rotated inside an elongated aperture it's perceived rotational velocity appears to modulate as it changes length, despite maintaining a constant speed. Specifically, the line appears to slow down when it approaches the small radius of the aperture and speed up when it approaches the long radius of the aperture. The affect appears to be nullified if the rotational velocity is modulated as an inverse function of the length of the line. In other words, if the speed of rotation is increased when the line approaches it’s shortest length and decreased as it approaches its longest length, the effect becomes much weaker. This effect works using a rotating sine wave grating in the place of the line and using different elongated aperture types, including an ellipse, rectangle, and parallelogram.

Description that will appear in the VSS program (50 words max):

When a line is rotated within an elongated aperture its perceived speed appears to change, speeding up as the line gets longer and slowing down as it gets shorter. This affect is greatly weakened when the rotational velocity of the line is modulated as an inverse function of its length.