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Evaluation of Stability Derivatives of an Ogive in a Newtonian limit

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Abstract

Stability derivatives for an ogive are obtained in the limiting case of the Mach number when it tends to infinity. The derivative in stiffness declines with the position of pivot for the whole extent of semi vertex angles. For half wedge angles from 20 to 25 degrees, there is a thoughtful expansion in the derivative of Stiffness. The derivative of damping declines through the pivot point for different directions of semi vertex and accomplishes a minimal value at h = 0.75. Afterward, together with expansion in the pivot point, here is an in-direct augmentation in damping derivatives. There is a broad variation in the mathematical worth for more incredible semi vertex perspectives in the scope of 20

degrees and above. The derivative in Stiffness increases with the angle of semi vertex for different varied positions of the pivot. The derivative in damping with the angle of semi vertex for varied fixed positions of pivot supposedly increases directly with the angle of semi vertex. It is additionally seen that this pattern of linear increment will, in general, get non-direct for the angle of semi vertex in the extent of 20 degrees and past.

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