

RESUMO N° 360

## ACTIVE FLUTTER SUPPRESSION USING AILERON CONTROL

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The benefits of increasing wing aspect-ratio are well known, such as higher lift-to-drag ratio and lower induced drag, although current commercial aircraft wings do not present high aspect-ratio. This is due to the fact that the wing design with high aspect-ratios are more flexible and thus more prone to high deflection which may lead to aeroelastic instabilities such as the case of flutter.

The aerospace group at IST is developing a Fluid-Structure Interaction (FSI) software able to analyse flutter in time domain on high aspect-ratio wings. A simplified wing model with high aspect-ratio is used for this work. The ailerons existing on the wing are set as active controls to suppress flutter. Expected results will be time history plots of the amplitude response with and without active flutter control.