# Study of wing torsional divergence

## National Aeronautical Establishment - Bending Torsion Flutter



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-study of wing torsional divergence

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#### Interval analysis of the wing divergence

By analyzing the static aeroelasticity of aircraft accurately, such as the control reversal and torsional divergence speed, it is expected that safe flights can be guaranteed within a prescribed flight envelope. The unique challenge of aeroelasticity is to analyse how vibrations, static deflections and lift and drag forces combine, and to make sure that any interaction of these three forces does not lead to inferior aircraft performance or even failure.

#### Aeroelasticity

Modern aircraft tends to adopt more flexible wing structures, such as high-aspect-ratio wings.

#### Aeroelasticity, composites and the Grumman X

Another major aircraft design concern that may be classified as a static aeroelastic phenomenon was experienced in 1927 by the Bristol Bagshot, a twin-engine, high-aspect-ratio English aircraft. As the big aircraft manufacturers overcome the initial hurdles of using composites on a large scale with the 787 Dreamliner and A350-XWB, expect more and more of these multi-functional capabilities of composites to find their way onto aircraft components. Much of the rest of the field of aeroelasticity involves a study of the response of aircraft in flight.

### **Bending Torsion Flutter**

Part I: Two-dimensional Thin Airfoil, Journal of Aircraft, 32 2 1995 313—322. He studied about static aeroelaticity and beam theory when M.

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