

Wings that waggle could cut aircraft emissions by 20 percent

May 21 2009



Wings which redirect air to waggle sideways could cut airline fuel bills by 20% according to research funded by the Engineering and Physical Sciences Research Council (EPSRC) and Airbus in the UK.

The new approach, which promises to dramatically reduce mid-flight drag, uses tiny air powered jets which redirect the air, making it flow sideways back and forth over the [wing](#).

The jets work by the Helmholtz resonance principle - when air is forced into a cavity the pressure increases, which forces air out and sucks it back in again, causing an oscillation - the same phenomenon that happen when blowing over a bottle.

Dr Duncan Lockerby, from the University of Warwick, who is leading the project, said: "This has come as a bit of a surprise to all of us in the aerodynamics community. It was discovered, essentially, by wagging a piece of wing from side to side in a wind tunnel."

"The truth is we're not exactly sure why this technology reduces drag but with the pressure of climate change we can't afford to wait around to find out. So we are pushing ahead with [prototypes](#) and have a separate three year project to look more carefully at the physics behind it."

Simon Crook, EPSRC Senior manager for [aerospace](#) & defence, said: "This could help drastically reduce the environmental cost of flying. Research like this highlights the way UK scientists and engineers continue to make significant contributions to our lives."

Source: Engineering and Physical Sciences Research Council ([news : web](#))

Citation: Wings that waggle could cut aircraft emissions by 20 percent (2009, May 21) retrieved 26 April 2024 from <https://phys.org/news/2009-05-wings-waggle-aircraft-emissions-percent.html>

| |
|--|
| <p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p> |
|--|