

**11TH INTERNATIONAL CONFERENCE ON STABILITY,
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**COULD JET FUEL THERMAL OXIDATIVE DEGRADATION BE AT LEAST
PARTIALLY RESPONSIBLE FOR A RECENT CRASH? A PROPOSED
HYPOTHESIS & EXPERIMENTAL PLAN TO TEST THIS HYPOTHESIS.**

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On January 17, 2008, a British Air Airways Boeing 777 with Rolls-Royce Trent 895 -17 turbofan engines enroute from China to London experienced uncontrolled engine roll back just short of landing. Fortunately, the crash resulted in only 1 serious injury (and 8 minor injuries). The on going investigation by the *Air Accidents Investigation Branch (AAIB)* has resulted in publication of several interim reports.

(http://www.aaib.gov.uk/sites/aaib/publications/interim_reports/boeing_777_236er_g_ymmm.cfm)

These reports have focused upon fuel quality being the contributing factor in this incident. However, the fuel used on this flight was found to be on specification with respect to both water content and thermal oxidative stability. The most recent report (as of 5/1/09) has tentatively suggested the possibility of ice blocking fuel flow into the fuel oil heat exchangers as being the cause of the uncontrolled engine roll back.

(http://www.aaib.gov.uk/sites/aaib/publications/interim_reports/interim_report_2_boeing_777_236er_g_ymmm.cfm)

This poster will briefly review our recently published report on the mechanism of jet fuel thermal oxidative degradation and then speculate how operation of this proposed mechanism may also tentatively explain the observed uncontrolled engine roll back. It is hoped that *informal conversations* at this poster will be the start of a useful dialog directed at increasing our understanding of this very unusual event (the role of fuel quality in uncontrolled engine roll back). Finally, several different experiments will be proposed to test the hypothesis of fuel thermal oxidative degradation contributing to the observed uncontrolled engine roll back incident.