

***11<sup>TH</sup> INTERNATIONAL CONFERENCE ON STABILITY,  
HANDLING AND USE OF LIQUID FUELS  
October 18-22, 2009  
Prague, Czech Republic***

**FUEL EFFECTS ON RANGE VERSUS PAYLOAD FOR MODERN JET AIRCRAFT**

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With changes in the availability and quality of existing aviation fuels anticipated in the next 30 years, it is timely to assess how changes in fuel properties would affect the range payload performance of aircraft. The effects on range and payload of a wide range of candidate fuels for aviation are investigated, including changes to the existing hydrocarbon blend used.

Light fuels tend to be more desirable for commercial flights, where the flight is as close to the maximum payload as possible. Flights favouring range over payload are better suited by a more dense fuel. The hydrocarbon blends suggest for each aircraft, an optimum fuel may exist for the maximum payload and allowing the maximum range.