

*IASH 2007, the 10th International Conference on
Stability, Handling and Use of Liquid Fuels
Tucson, Arizona
October 7-11, 2007*

POSTER

**DETECTION AND CHARACTERISATION OF UNDISSOLVED WATER AND
PARTICULATE IN JET FUEL**

Garry K. Rickard

QinetiQ, Room G23, Building 442, Cody Technology Park, Farnborough, Hampshire, UK,
GU14 OLX, UK

Particulate contamination in jet fuel is normally assessed by gravimetric Millipore testing (IP 423 / ASTM D 5452). This test method has a number of disadvantages, such as poor precision, large sample size and it is not possible to gain real time results. In recent years, the use of particle counting technologies have been investigated and two laboratory based methods are available from the Energy Institute. The methods are based on laser obscuration technology. This technology has been used for other petroleum products for many years and has a number of advantages over the gravimetric methods such as, smaller sample size, analysis time, technology transferable through distribution chain (on line real time analysis available), calibration to ISO standards.

Due to the success of the laser obscuration methods in identifying contaminants in jet fuel other particle counting devices have also been investigated. This paper/poster shows an initial investigation into the detection and characterisation of particulate and water in jet fuel using a video microscope. A number of different parameters including concentration; size, shape, and optical density are investigated as tools to characterise particulate and water in jet fuel.