Sonar Uncertainty Instrument

L-3 Klein (USA) is to present the HydroChart 5000 (HC5000) Sonar Uncertainty Model at the upcoming Shallow Survey 2012 Conference to be held in Wellington, New Zealand, from 20th to 24th February 2012. The HC5000 is a portable, high-speed hydrographic survey system able to simultaneously collect IHO-quality bathymetry and co-registered, high-resolution, multi-beam side scan sonar data.

In order to qualify the system for use in hydrographic survey, L-3 Klein developed an uncertainty model which makes use of existing theoretical models of acoustic propagation, bottom and surface scattering, array processing, bathymetry signal processing, and statistical processing. This model was statistically validated in late 2011 with data collected from a NOAA-owned HydroChart 5000 System.

The process was guided and reviewed by the University of New Hampshire. In summary, the uncertainty results generated from the model and validated using actual sea data show direct correlation with each other and support L-3 Klein's claim that the HC5000 is suited for conducting IHO Surveys in port, harbours and inland waterways.

Note: L-3 Klein would like to thank NOAA and the University of New Hampshire for their guidance, review and critique throughout the validation effort.