



Workshop on automatic calibration of Multibeam Echo Sounder Systems

2, 3 November 2016
Université Laval, Québec
Département des Sciences Géomatiques, local 1516

The aim of this workshop is to gather Multibeam Echosounder survey system specialists to discuss issues in automatic calibration of such systems. CIDCO and SHOM will present the results of the research project “Nocalit/Calibration”. The outcome of this project is a software suite devoted to automatic calibration. The underlying theory and its implementation will be presented.

Participants will have the opportunity to

Three main topics will be discussed:

- MultiBeam Echo Sounder – IMU/INS boresight calibration, as an alternative to the classical “patch-test”.
- MultiBeam Echo Sounder – IMU/INS latency calibration. This method is the first method able to estimate the time delay between IMU and MBES
- Lever-arm automatic calibration. This method is the first one to determine automatically lever-arms from overlapping MBES strips.

The workshop will start by presentations from CIDCO and SHOM, followed by discussions with the participants on the results, software implementation, and possible generalization and improvements of these methods.

Provisional Program:

Wednesday 2 November	
09:00-12:00	SHOM-CIDCO meeting
Part 1: Boresight calibration	
13:30	Automatic Boresight calibration theory (N. Seube)
14:00	Data selection for automatic boresight calibration (J. Le Deunf, C. Blanchet)
14:30	Break
14:45	Presentation of MIBAC (MultiBeam-IMU Boresight Automatic Calibration) (R. Keyetieu)
15:15	Demonstration on several data sets and systems
15:45	Open discussion



16:30	End of day 1
Thursday 3 November	
Part 2: MBES-IMU calibration	
09:00	Observation and estimation of IMU-latency (N. Seube)
09:30	Data selection for automatic latency calibration (R. Keyetieu)
10:00	Break
10:30	Presentation of MILAC (MultiBeam-IMU Latency Automatic Calibration) (R. Keyetieu)
11:00	Demonstration on several data sets and systems
11:30	Open discussion
12:30	Lunch Break
Part 2: Lever-arm calibration	
13:30	Lever-arm (Position reference point to Acoustic center) calibration (N. Seube)
13:45	Coupling between lever-arms and boresight calibration (R. Keyetieu)
14:00	Break
14:30	Calibration tools as a mean to detect bad installation of MBES system (R. Keyetieu)
15:00	Open discussion
16:30	Concluding remarks, end of the workshop