

A Digital Bathymetric Model combining Multi Beam Echo Sounder and Sidescan Sonar

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Abstracts

The combination of Multi-Beam Echo Sounder swath bathymetry and high-resolution towed Sidescan sonar provides a powerful method of examination about hydrographic survey results.

In this paper, we investigate the fast method of 3D bathymetric reconstruction with the Digital Sidescan sonar(Benthos SIS 1500) and Shallow Multi-Beam Echo Sounder(Reson Seabat 8125). The Seabat 8125 is a 455KHz high resolution focused Multibeam echo sounder(MBES) system which measures the relative water depth across a wide swath perpendicular to a vessel's track. The Benthos SIS1500 is a chirp(nominal fq. 200KHz) sonar which map the topographical features & sediment texture of ocean bottom using backscattered amplitude.

We generates the very large 3D bathymetric texture mapping model with the Helical System's HHViewer and describes additional benefits of combining MBES and Sidescan Sonar imagery, the removal of geometric distortions in the model and a deterministic sounding noise.