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On Techniques for the Formation and Post Processing of Sonar Images

ABSTRACT - Masterthesis

When a sonar image is to be displayed on a monitors screen, specific relevant information is lost in the decimation process. This thesis proposes and evaluates different normalization, transformation and decimation techniques to insure the correct interpretation of the data. Normalization is done with local factors as a counterbalance to the spreading losses obtaining improvements in the standardization of the data while maintaining the local contrast. Inverse and direct transformation is evaluated using nearest neighbour, linear and cubic interpolation methods. And finally, some decimation algorithms based on segmented and classified images are proposed, which proved to be able to extract and display the pertinent information.