

Correction on school geometry and density: approach based on acoustic image simulation



Models of simulated schools have been used to determine the intrinsic variability in echotracés due to beam pattern effect. This work concerns only morphometric and energetic parameters that can be extracted from echotracés. It appears that dST, the difference between school density and processing threshold is a key parameter, which directly influences the concerned detection angles. Relations, taking into account dST but also, Nbi, the relative school length image compared to the beam width, have been settled for the calculation of length and density corrections. In most cases, corrected values are obtained with errors less than respectively 5% for length and 0.5 dB for density (reverberation index), provided that the Nbi value is 1.5 or more. When Nbi is less than 1, it seems impossible to bring some pertinent corrections. The school energy does not need any correction. It is recommended to use threshold values not too low, to avoid detection through the side lobes. However this setting must be determined in order to obtain dST values greater than 10 dB. Thresholds between -60 and -65 dB seem adequate, at least for schools

volume backscattering strength (VBS, Sv) values commonly encountered in the Bay of Biscay.

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