Analysis of the acoustic discrimination of krill

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Acoustic discrimination of different species is often performed by comparison of the frequency response or dB difference of all the available frequencies with respect to the 38 kHz response. For krill species is common to discriminate based exclusively in the difference between the 120 and 38 kHz frequencies. More recent papers warn on the variation of this pair of frequencies difference with length. After a revision of the literature, we investigate the variability of this difference with orientation, physiology, and length, employing the state-of-the-art model for this species, the Stochastic Distorted Wave Born Approximation. Two scenarios of mixed species are simulated (krill and mesopelagic fish, krill and juvenile anchovy), and their discrimination examined with an unsupervised organizing map in order to evaluate the number and frequencies necessaries, considering the usual working frequencies.