



Acoustic monitoring of the oxygen production of a seagrass meadow

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Abstract:

This paper discusses the data acquired in the Bay of la Revellata, Calvi, Corsica during October 2011 for the purpose of developing an acoustic system for monitoring the oxygen production of a seagrass meadow. In a range dependent very shallow water area, densely covered by *Posidonia Oceanica* seagrass, a sound source transmitted chirp signals in 3 different bands (400-800Hz, 1.5-3.5kHz and 6.5-8.5kHz) to 100m distant 3 self-recording hydrophones during a period of one week. Preliminary data analysis shown a possible correlation between the oxygen production and the instantaneous impulse responses observed. Using a simple procedure to estimate the received power allows to obtain figures of variability along time that seem to be highly correlated with oxygen production and show similar trend with oxygen measurements by optodes conducted in the same area. Those preliminary results show that a light acoustic system can potentially be used in a monitoring system to quantify the oxygen production of a seagrass meadow. The calibration of the acoustic method with other oxygen measurements is an ongoing work.