

OCEAN OPTICS XXIV

Valamar Lacroma Dubrovnik Hotel | Dubrovnik, Croatia | October 7–12, 2018

<https://oceanopticsconference.org>

Monday, October 8

Poster Session 1

16:00–18:00

Poster 21

SUSPENDED PARTICLES CHARACTERISTICS AROUND MUSSEL FARMS IN HORSENS FJORD AND LIMFJORD, DENMARK – PRELIMINARY RESULT

The differences in particle characteristics were assessed between areas inside and outside the mussel farms. The analyses based on empirical data of particle volume concentration (PVC), LISST-100X B, and SPM, gravimetric method, which were obtained during a campaign in Sept. 2017 on three mussel farms located in Denmark fjords: Horsens and Limfjord. Despite observed values of PVC and SPM were higher in Limfjord waters than in Horsens Fjord, which was related to different hydrological conditions, similar differences were observed between inside and outside waters of mussel farms. Inside farms all measured quantity parameters were lower than outside. Differences between parameters median values inside and outside the farms were up to 40%, of SPM 33% of Total PVC and 52% of particles number. Particles size distribution slope were higher inside the farms, what suggests small particles domination. Presented results document depletion and shift towards smaller sizes of suspended particles in the area of mussel farms, as foreseen by eco hydrodynamic models. Consequently, particles depletion changes optical properties of water by increasing water transparency. The phenomenon allows for use optical or remote sensing methods for control of water quality around mussel farms.

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