

# ***Interactive comment on “Study on organic matter fractions in the surface micro layer in the Baltic Sea by spectrophotometric and spectrofluorometric methods” by Violetta Drozdowska et al.***

## **Anonymous Referee #2**

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### Overall

In the manuscript entitled "Study on organic matter fractions in the surface microlayer in the Baltic Sea by spectrophotometric and spectrofluorometric methods" authors pay attention to an important issue regarding to the influence of surfactants on the physical processes occurring in the sea surface layers. In the manuscript authors present an important results of absorption and fluorescence for samples collected from a surface microlayer (SML) and subsurface layer (SS) in the Batic Sea both in the open sea and near-shore. Based on absorption and fluorescence measurements authors deter-

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mined several parameters to describe the changes of organic matter and discuss the processes occur in the sea surface layers.

The manuscript consists of 5 sections. In section 1 authors introduce the reader to the issue. In Section 2, authors present collection and characterization of samples, studied area and specification of measurements. Moreover, in this section authors present the detailed description of several specific absorption and fluorescence indices. Next, in section 3 authors present detailed description of obtained results taking into account the specific absorption and fluorescence indices and the relationships between them. Next, authors discuss obtained results in the Section 4 and finally the authors conclude the manuscript in Section 5.

The manuscript reports findings that are interesting for future work in ocean optics. Manuscript has scientific weight.

In my opinion the manuscript require several corrections to be suited for publication. The suggested corrections before the publication of the manuscript were mentioned below.

Detailed comments:

1. The name of the Section 2 "Method" should be specified. Now the name of this section suggests about description of used method, however authors describe in this section several issues: the used material, studied area and specification of measurements or specific absorption and fluorescence indices.
2. I suggest, that better would be if authors move the subsection 2.3 "CDOM and FDOM optical properties" and described this in separate section "Optical indices used for calculations" or "Optical indices of CDOM and FDOM used for calculations" with two subsections: absorption indices and fluorescence indices.
3. I think that better would be, if all data of calculated optical indices have been collected in one table.

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4. The English language of the manuscript is good. However, several sentences are unclear or contain colloquial phrases, for example: page 7 line 8 "...become smaller an smaller.." better would be "...decreasing..." page 12 line 2 "...the biggest relative changes..." better would be "...the highest relative changes.." page 13 line 3 "...shorter wavelength..." better would be "...lower wavelength.." page 15 line 7 "What is more..." better would be "Moreover.."

I think that a little English correction can improve quality of the manuscript.

5. The data presented in tables are unnecessarily duplicated in the text, for example: - page 7 line 15-17 - duplicated data from Table 1 or - page 10 line 17-19 duplicated data from Table 2, instead the duplication, the authors should discuss this data.

6. Fig. 3 - incorrect legend.

7. Fig. 7 - no description of X-axis

8. Page 7 line 19 - W1 station describes the area near Vistula River outlet not open sea

9. Page 5 line 18 - it should be S(275-295) not S(274-295)?

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