

The MATLAB (The MathWorks, USA) code presented here is for extraction the chlorophyll *a* fluorescence signal from red-green-blue images. The chlorophyll *a* fluorescence signal is given as intensity of the red channel based on red-green-blue images. Process is described in Friedrichs, A, J.A. Busch, H.J. van der Woerd and O. Zielinski, SmartFluo: A Method and Affordable Adapter to Measure Chlorophyll *a* Fluorescence with Smartphones, *Sensors*, 2017, 17, 678; doi:10.3390/s17040678.

The calculations are based on theoretical principles and equations published in: Lorenzen, C.J. A method for the continuous measurements of in vivo chlorophyll concentration. *Deep-Sea Res.* 1966, 13, 223–227. Babin, M. Phytoplankton fluorescence: Theory, current literature and in situ measurements. In *Real-time Coastal Observing Systems for Marine Ecosystem Dynamics and Harmful Algal Blooms*; Unesco Publishing: Valencia, Spain, 2008; Chapter 7, pp. 237–280. Novoa, S.; Wernand, M.R.; van der Woerd, H.J. WACODI: A generic algorithm to derive the intrinsic color of natural waters from digital images. *Limnol. Oceanogr. Methods* 2015, 13, 697–711.

Short instructions for code use:

1. Unzip "RGB2Chl.zip" to retrieve the MATLAB script – including needed sub-functions at the end of the script, folders "Blank" and "Samples" – including example data, and this README.
2. Create one folder containing reference images and sample images in the same folder where the script is. Name them as wanted.
3. Put reference images in "Blank" and sample images in "Samples".
4. Read the instructions in script "RGB2Chl", make the appropriate changes if required in section "PARAMETERS", and execute the script.
5. Check the results in variable called "AveragedIntensityPerSubImage".

Execute RGB2Chl without any changes will determine intensity for RGB-images given in folder "Samples" with base-line correction with RGB-image given in folder "Blank".

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