

Software distribution

This software is distributed as accompanying software for the article *Photon count estimation in single-molecule localization microscopy* by Rasmus Ø. Thorsen, Christiaan N. Hulleman, Sjoerd Stallinga and Bernd Rieger.

This distribution contains Matlab software to run the algorithms described in the article.

Matlab

The provided scripts use Matlab (<https://mathworks.com>) and have been tested working in version R2017b. The scripts use help functions from the DIPimage Toolbox and must be installed to make full use of the functions. DIPimage is a freely available image processing toolbox for Matlab (<http://www.diplib.org>).

In the directory `matlabfun` all relevant Matlab functions are included. There are three examples showcasing different computations: `example1.m`, shows the estimated photon count for a measured bead by a fully-fledged vectorial or simplified Gaussian PSF model compared to TRABI, `example2.m`, computes a vectorial through-focus PSF and the corresponding photometric ratio (Gaussian fit over TRABI value) as a function of the axial position, `example3.m`, computes the photometric ratio over six bead measurements. These examples depict part of the data shown in the figure from the article.

We hope that these examples are instructive enough to allow the interested user to apply our code. If you have any troubles please do not hesitate to contact us at the email address given below.

Data availability

Additional data is available for download at: doi: 10.4121/uuid:ea2ea179-26f4-4e1a-90e1-b2759b553ce8.

Terms of use

Copyright (C) 2018

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details (<https://www.gnu.org>).

Quantitative Imaging Group
Faculty of Applied Sciences
Delft University of Technology
Lorentzweg 1, 2628 CJ Delft
The Netherlands
contact: Bernd Rieger, b.rieger@tudelft.nl