

README

Authors: N.Chakrova, B. Rieger, and S. Stallinga.

Description: This software package contains the MATLAB (<http://www.mathworks.com>) scripts for simulating the reconstruction of structured illumination microscopy data by two multiple-image deconvolution methods: the joint Richardson-Lucy deconvolution and the pattern-illuminated Fourier Ptychography.

Citation: The software package is distributed as a supplementary material for the following article: N.Chakrova, B.Rieger and S.Stallinga, "Deconvolution methods for structured illumination microscopy", *submitted to JOSA A*, (2016). Please cite this publication in case you use the software.

Conditions of use: The Quantitative Imaging Group of the TU Delft has developed and is the owner of the image processing routines distributed in this package, hereafter called SOFTWARE. The SOFTWARE is free for non-commercial use by students and staff in universities or non-profit research institutes. Redistribution of SOFTWARE or parts thereof in any form is not permitted. This SOFTWARE 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.

Content: SIMULATION_piFP – matlab script simulating the pattern-illuminated Fourier Ptychography reconstruction of the structured illumination microscopy data, acquired under multi-spot illumination.

SIMULATION_jRL – matlab script simulating the joint Richardson-Lucy reconstruction of the structured illumination microscopy data, acquired under multi-spot illumination.

Auxiliary functions: cztfunc
 generate_illum_patterns
 get_field_matrix
 get_psf
 ft2
 ift2
 prechirpz