

# test

March 7, 2024

Connected to base (Python)

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[ ]: # This notebook-style script requires a ~500 MB download from https://www.ebi.ac.uk/biostudies/files/S-BIAD1063/PTI-BIA/Anisotropic\_target\_small.zip

import numpy as np
import matplotlib.pyplot as plt
from numpy.fft import fftshift

import waveorder as wo
from waveorder import optics, waveorder_reconstructor, util, visual

import zarr

[ ]: n_media = 1.515 # refractive index of the immersed media for objective (oil: 1.512, water: 1.33, air: 1)
lambda_illu = 0.532 # illumination wavelength (um)
mag = 63 # magnification of the microscope
NA_obj = 1.47 # detection NA of the objective
NA_illu = 1.4 # illumination NA of the condenser
N_defocus = 96 # number of defocus images
N_channel = 4 # number of Polscope channels
N_pattern = 9 # number of illumination patterns
z_step = 0.25 # z_step of the stack
z_defocus = (np.r_[N_defocus] - 0) * z_step # z positions of the stack
ps = (
    3.45 * 2 / mag
) # effective pixel size at the sample plane (cam pix/mag in um)
cali = False # correction for S1/S2 Polscope reconstruction (does not affect phase)
bg_option = "global" # background correction method for Polscope recon (does not affect phase)
use_gpu = False # option to use gpu or not (required cupy)
gpu_id = 0 # id of gpu to use
```