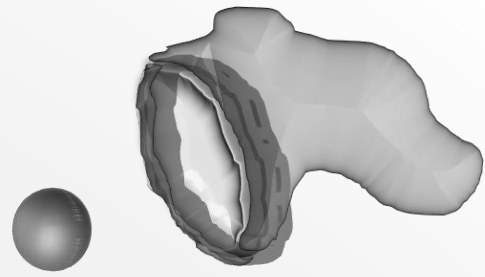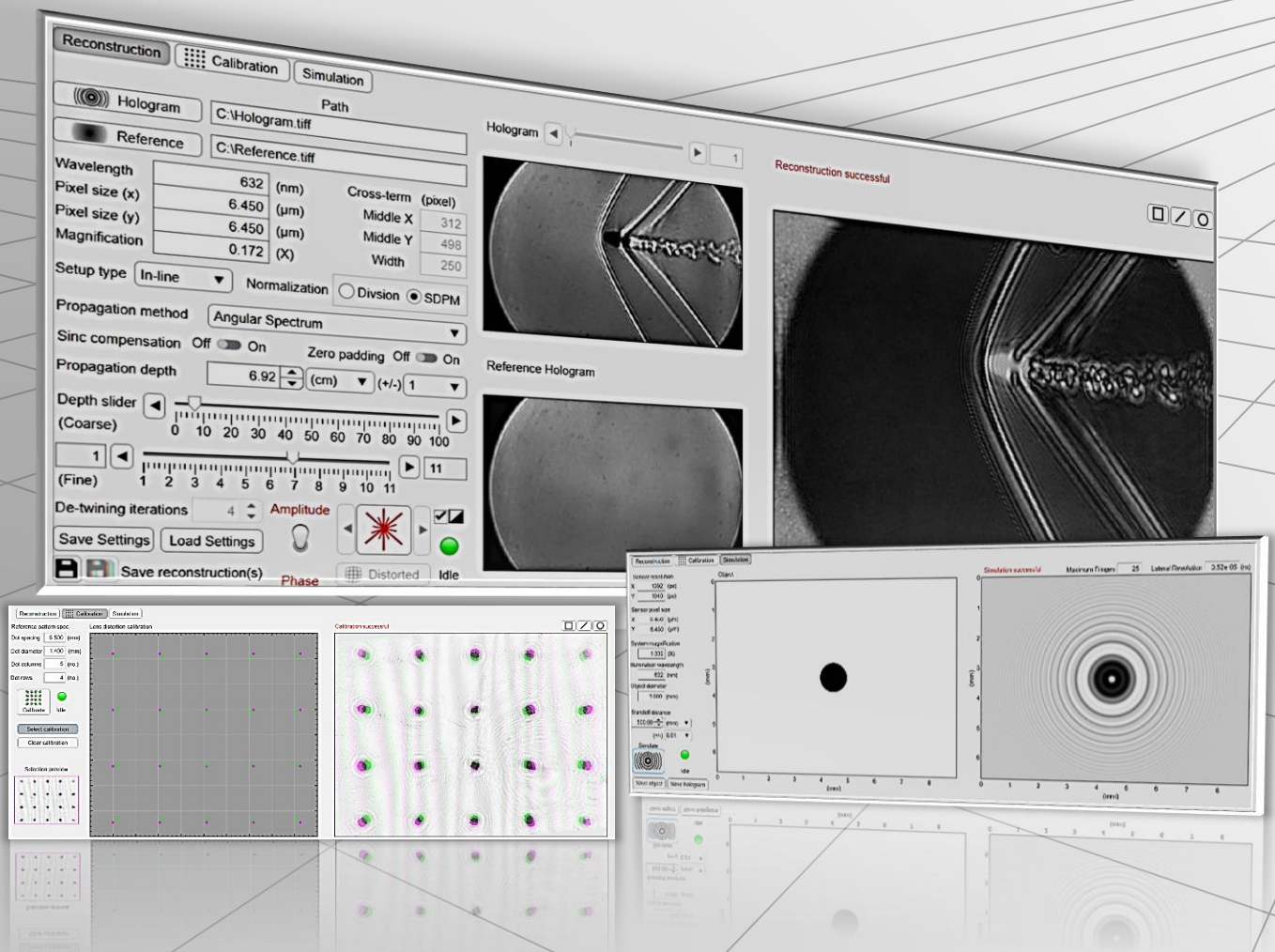# Digital Holography Systems

MetroLaser, Inc.

Holo4D Software

An all-in-one solution for holographic reconstruction

♦ Visualize in 3-dimensions

♦ Variety of reconstruction and filtering algorithms

♦ Adapt easily for inline & off-axis holography

♦ Amplitude & phase measurements with de-twinning

♦ Calibrate and remove optical distortion

♦ Perform hologram simulations

A Robust Tool for Digital Reconstructions

- ◆ User-friendly interface
- ◆ Combine multiple propagation methods to increase resolution
- ◆ Various normalizations to enhance signal-to-noise ratio
- ◆ Compatible with holograms from any digital sensor recording
- ◆ Design digital holographic systems using simulations
- ◆ Best suited for biomedical, aerospace, industrial and research applications

Specifications

Program specifications	
Hologram formats accepted	tiff, tif, png, bmp, jpeg , jpg
Hologram types	In-line & Off-axis (planar waves)
Inputs	Object & reference holograms (latter is optional), illumination wavelength, pixel size (length & width), system magnification, cross term location and size (off-axis holography), propagation distance
Normalization	Division, SDPM
Propagation methods	Angular Spectrum, Upsampling, Lowpass filtering, Fast Fourier Transform
Pre-propagation features	Sinc compensation, Zero padding
De-twinning	Two methods: Iterative or SDPM
Optical distortion removal	Fixed frequency distortion target (dot-pattern grid) calibration
Simulations	Simulate field-of-view, fringes captured, lateral resolution based on imaging sensor, setup and illumination of a spherical object.
Measurements	Amplitude and Phase (wrapped)
Reconstruction(s)	Single or batch processing
Save/Load	Settings, reconstruction, simulation
PC specifications	
Operating system	Windows 10 (64 bit)
CPU	Intel Core i3 or faster
Memory	2 GB or more
Screen size	1328 × 510 or larger
Connection Port	USB 3.0
License	USB dongle (2.27" × 0.75" × 0.42")

For sales please contact:

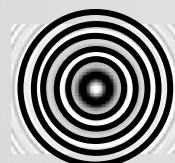MetroLaser Inc. Corporate Headquarters
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MetroLaser, Inc.

Holo4D Research