HOLO/OR

A VISION OF EXCELLENCE

HOLO/OR

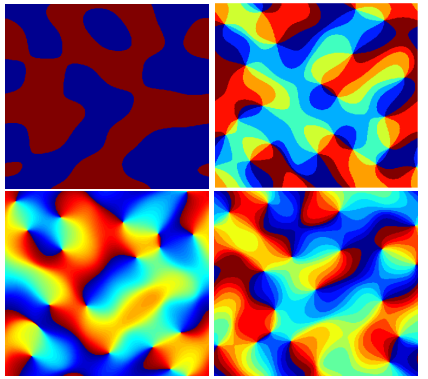
Holo/Or is the world leader for Diffractive Optics

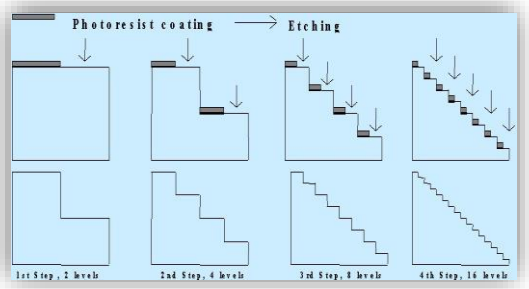
1989	1994	2013	2017	2019	2020
• Holo/Or established	• First commercial use of CO_2 diffraction limited DOE	• Steady growth in laser usage begins showing affect on Holo/Or's DOEs demand	• Continuous growth leads to re-organization and enables wafer level production	• New POG product line	• Strategic partnership with **TechInvest Holding Ag** (Scanlab)

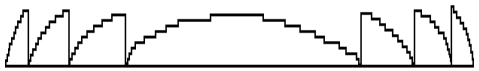
- First to deliver DOEs for commercial use
- Break through technology
- Vast experience & expertise
- Diverse and extensive collection of beam shaping solutions

Holo/Or develops, designs and manufactures DOEs

- DOEs are thin diffractive windows that shape light
- Any desired intensity profile or shape
- In many applications DOEs **significantly improve system performance**
- DOEs advantages:
  - High (absolute) angle precision
  - High LDT
  - Thin & compact
  - Flexible shaping in single surface



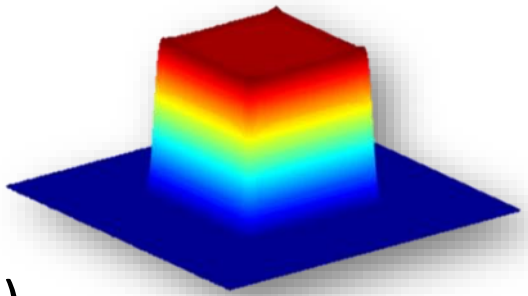


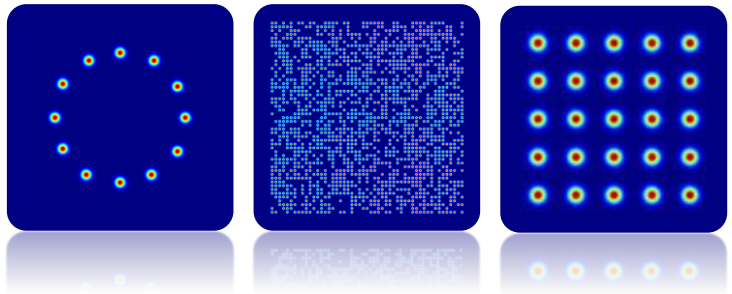


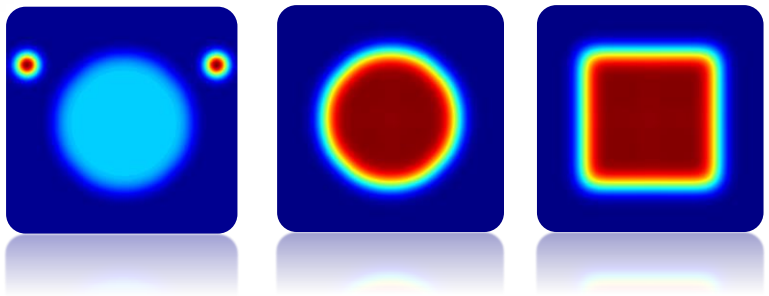
The power of Diffractive Optics

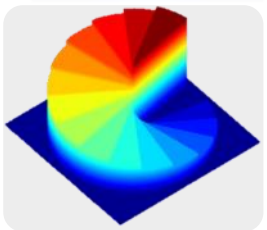
Main DOE families:

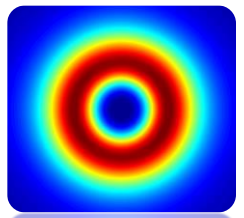
- Beam Splitters
- Beam Shapers
- Beam Foci (Focal shapers)

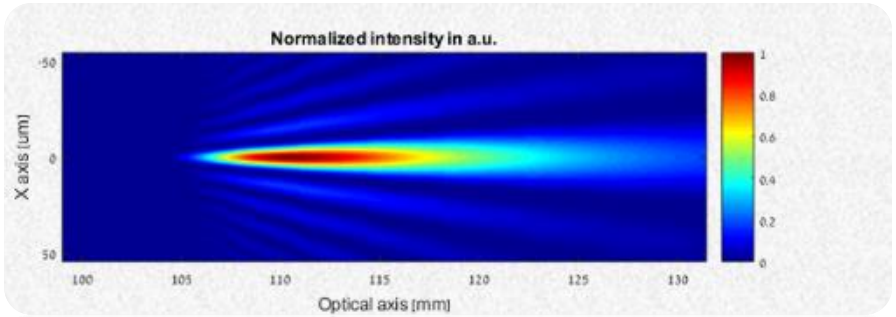




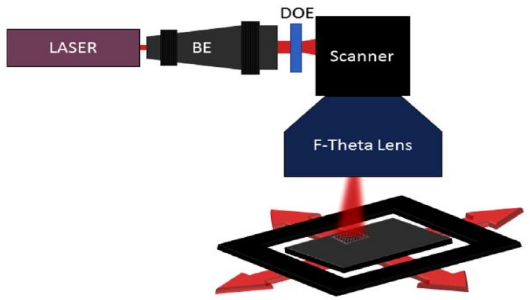






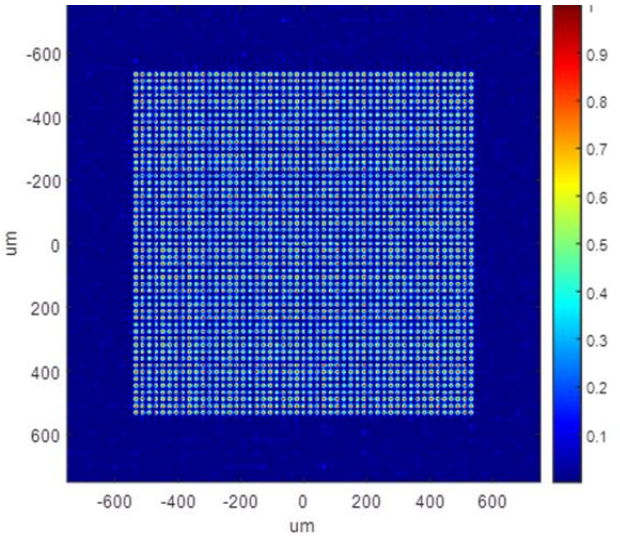


DLITe laser beam splitters for Laser Surface Functionalization



- Laser surface functionalization is gaining ground with increasing laser power, strong interest in LIPSS for hydrophobia, tribological properties modification, anti bacterial
- DLITe setup works by splitting the light into an ordered array of spots with pitch= spot size , then focusing on the target plane with a focus lens
- Covered area can be as large as the laser can pattern
- Flat-top intensity envelope, with good spot uniformity
- Simple and robust solution

Laser surface texturing using a single diffractive optical element as an alternative for direct laser interference patterning, Journal of Laser Applications 32:3
By Alexander Brodsky *and* Natan Kaplan

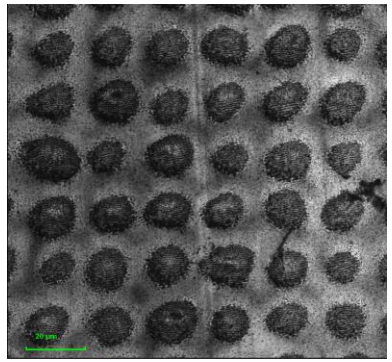


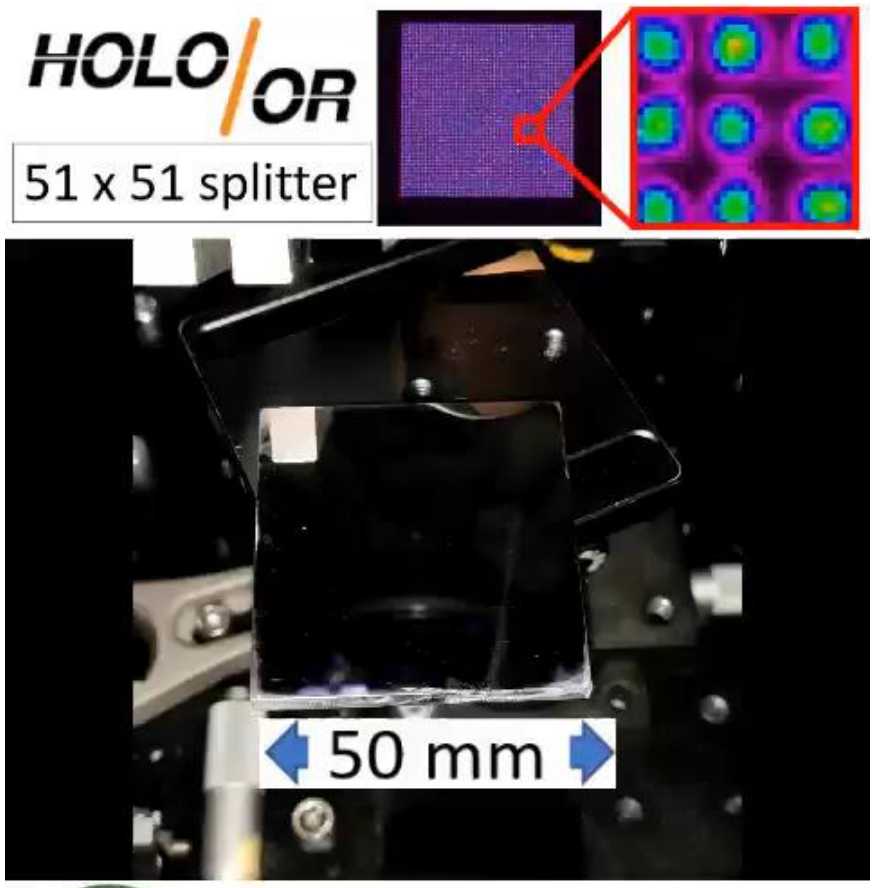
https://doi.org/10.2351/7.0000030

DLITe real test case

- Holo/Or Collaboration with HiLASE, PERLA laser system. Video curtesy of HiLASE.
- DLITE splitter MS-805-I-Y-A , 51X51 orders with separation 20um
- F-theta EFL 100mm, input beam diameter 8mm
- Processing speed 0.06m^2/min,

  >2500 holes per pulse, pitch 20um.



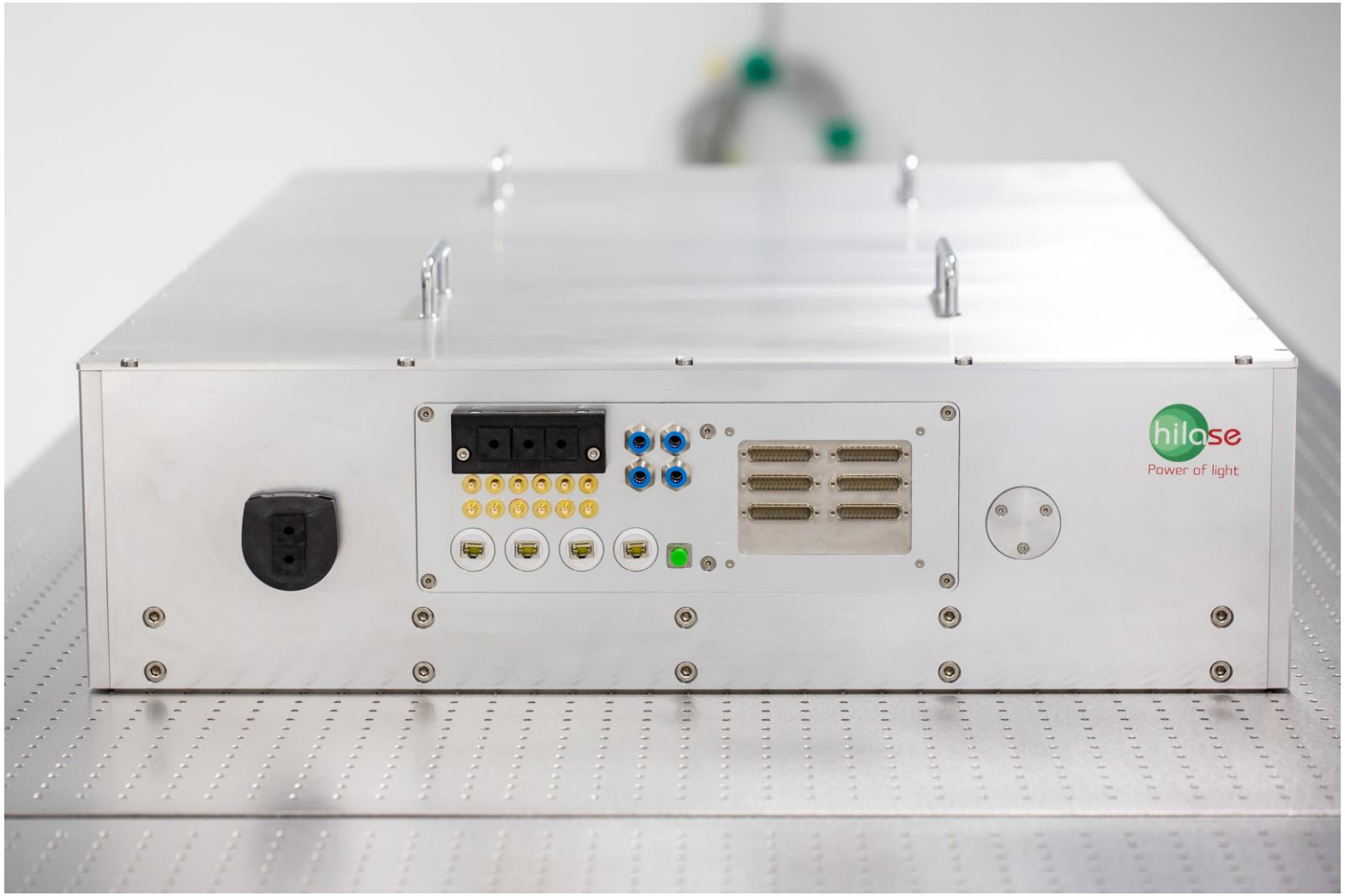


hilase

Perla laser system
130 W 2.6 mJ 1.7 ps

PERLA 100 : Laser for multi-beam processing

Specifications	
Wavelength	1030 nm + harmonics
Bandwidth	2 nm
Average power	100 W
Repetition rate	1-200 kHz
Pulse energy	10 mJ
Beam quality M2	<1.2
Pulse width	2 ps
Power stability (RMS)	< 0.5%
Energy stability (RMS)	< 1%
Contrast of pulse train	500:1



Thank you!

Feel Free To Ask **Questions**

For more detailed follow-up, contact us at : holoor@holoor.co.il