



# NEWSLETTER - Q4 2019

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## Announcements

### Don't Miss Holo/Or's End Of Year Sale!

Our annual tradition continues, applying a **15% discount to orders placed before December 26th, for items available from stock** (limited to 3 pieces per PN).

This is a wonderful opportunity for you to order your desired products with special prices for a limited time!



Place your order now and take advantage of this special sale!

- [Beam Splitter Products](#)
- [Beam Shaper Products](#)
- [Beam Foci Products](#)

For more information, please [contact us](#).

### BIOS & Photonics West 2020

We would like to invite you to visit us at booth #8119 at SPIE BIOS, and at booth #3119 at SPIE Photonics West Exhibition in San Francisco, California on February 1-6, 2020.



Come and meet our professional optical engineers, discuss your project and requirements, learn about diffractive optical applications, and get answers to all of your questions.

At these events, we will be displaying our unique DOEs along with our latest

technology and developments.

[Click here and schedule a meeting with us today!](#)

**BIOS, February 1-3.2020:**

Moscone Convention Center, **Booth #8119, South Hall F.**

**Photonics West, February 4-6.2020:**

Moscone Convention Center, **Booth #3119, Hall D.**

We look forward to meeting you in San Francisco.

## New Publications

It is difficult to achieve realistic, diffraction-limited results using Zemax OpticStudio™ simulation software tool when designing a system with DOEs integrated in it. This is especially true near the focal point of the system, and for multi-mode lasers.

Nonetheless, Zemax geometrical RayTracing methods are much faster and better developed than physical optics methods.

Therefore, and due to the fact that many of our customers use this modelling software to design their systems, Holo/Or has recently published an article on a new method to achieve **realistic, diffraction-limited results** using scattering models.

This is especially useful for modelling multi-mode laser behavior with focusing systems, and for getting realistic transfer region in beam shapers. [Read our full article.](#)

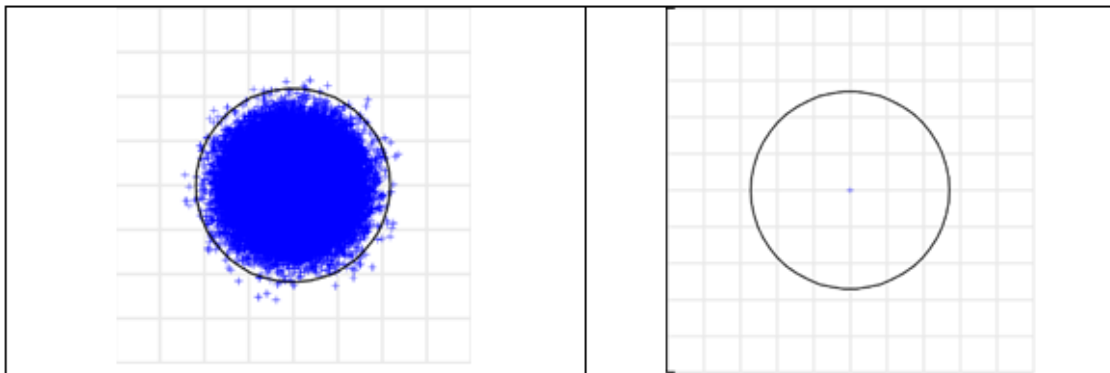


Fig 1: spot diagram at lens focus in normal Zemax raytracing simulation (right) vs using our method (left).

## New Products

## Scanning HEDS Beam Splitters

Customers involved with many laser applications- including welding, cutting, brazing and perforation, can benefit from the use of our [HEDS family](#) of 1X2 beam splitters, which offer high efficiency splitting. Based on your feedback, we have designed an improved version of the HEDS, **optimized for scanning double lines**. These Scanning HEDS have no effect on the line width of the scanned lines, even for single mode lasers. They also maintain diffraction-limited line width when used in scanning applications while maintaining high efficiency (>95%).

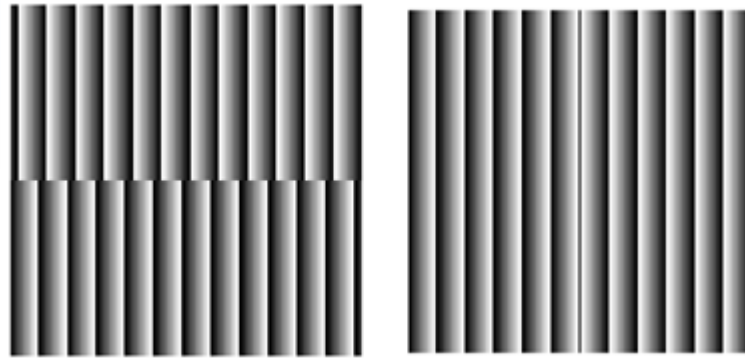
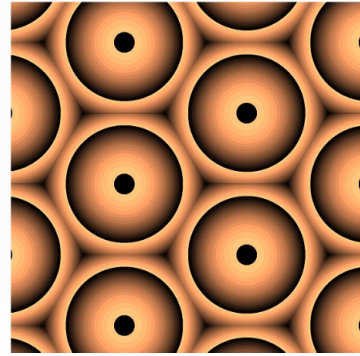


Fig 2: Scanning HEDS (left) vs. Normal HEDS (right)

	DS-291-J-YA	DS-292-J-YA
Type	Scanning HEDS	
Wavelength	1030 nm	
Material	Fused Silica	
Element size	50.8mm	
Clear aperture	45 mm	
Thickness	2.29 mm	
Optical function: separation between spots	2.67 mRad (0.8 mm@ EFL 300mm)	5.67 mRad (1.7 mm@ EFL 300mm)

## Diffraction Lens Arrays

Many laser applications require **precise and efficient diffusers** at low angles. Holo\Or's new diffractive lens array diffusers have total ( $<10^{-5}$ ) ROC accuracy and feature **diffraction efficiencies of ~ 95%**, with **no dead zones** between the lenses.



Due to their thinness and diffractive nature, they are **not affected by thermal lensing** and other temperature related effects, and offer a thin, planar alternative to traditional lens arrays. Our design flexibility allows Holo/Or to easily customize diffractive MLA designs to fit our customers' needs.

These diffractive lens arrays can be used for applications such as aesthetic laser treatments, material processing, fluorescence microscopy and others. [Contact us](#) for a quote.

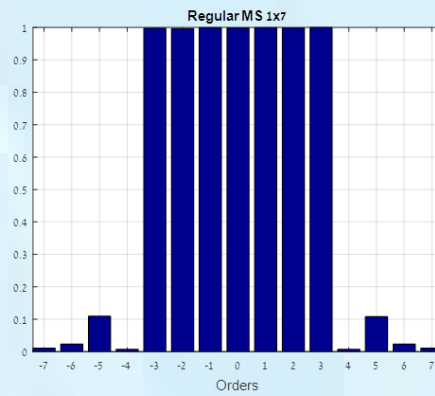
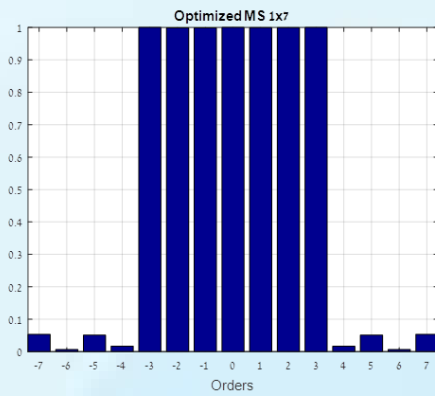
## Applications

### Handling Undesired Orders In 1XN Beam Splitting Applications

Many sensitive laser applications in microelectronic and flat panel industries require parallel ablation or scribing of lines on a flat substrate. These sorts of applications often employ Holo/Or's [Multi-Spot Beam Splitter](#) DOEs to create the spots used for the parallel writing, along with a scanner or moving stage.

For sensitive applications in the UV and green laser wavelengths, the presence of residual laser energy in undesired diffracted orders can create unacceptable defects ("scratches") near the processed area.

To deal with this issue, Holo/Or has developed improved 1D splitter designs that have significantly reduced energy in the undesired orders. Especially useful in this regard is our new 1X7 MS with **undesired orders less than 5% than the desired**, a 2x improvement relative to our normal designs.



## Technical Resources

As part of our continuous efforts to provide our customers with valuable content and tools, we have gathered some of our best resources in one place for your convenience. On this page you will find instructions and manuals, tutorials, simulation tools, and more.

[Click here for technical resources page.](#)

For more information, or if you have a question that you can't find the answer to, please [contact us](#) and we will be happy to help.

For more informaton please [contact us](#).



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