

## Holo/Or Newsletter – Q2 2025

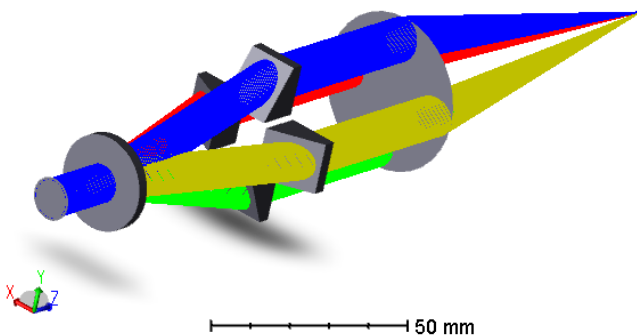
### Publications and conferences

#### Summing up Laser world of Photonics China 2025 Expo

Holo/Or had a lot of interest from both existing and new customers in the latest Laser world of photonics China exhibition. Our latest [VB laser glass cutting objective](#) saw a lot of interest from laser integrators interested in processing transparent materials. Also of interest were our precise beam shapers for wafer inspection, PV production and other precise laser applications. We feel the PV laser machine industry is starting to recover from the 2024 slowdown, and stand ready to continue serving it and laser machine integrators in general, with our cutting edge, high-quality beam shapers.



#### Compact laser Interference patterning setup enabled by Holo/Or DOEs

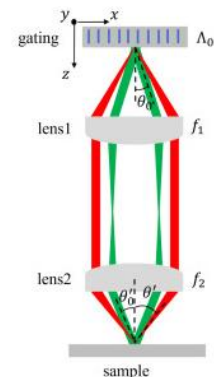


In a [recently published letter](#), a Swiss and USA team of researchers have revealed a new, compact setup for Direct Laser Interference Patterning (DLIP) that uses Holo/Or's DS-032-Q-Y-A [beamsplitter](#) as a key component. DLIP is a method often used for creating dense textures on substrates using high power lasers, and Holo/Or has much experience with such compact setups – check out our DLIP [Zemax modelling tutorial](#),

or [contact us](#) for a quote for DLIP DOEs or a full compact DLIP setup.

#### Improved impulsive stimulated Brillouin scattering microscopy using DOEs

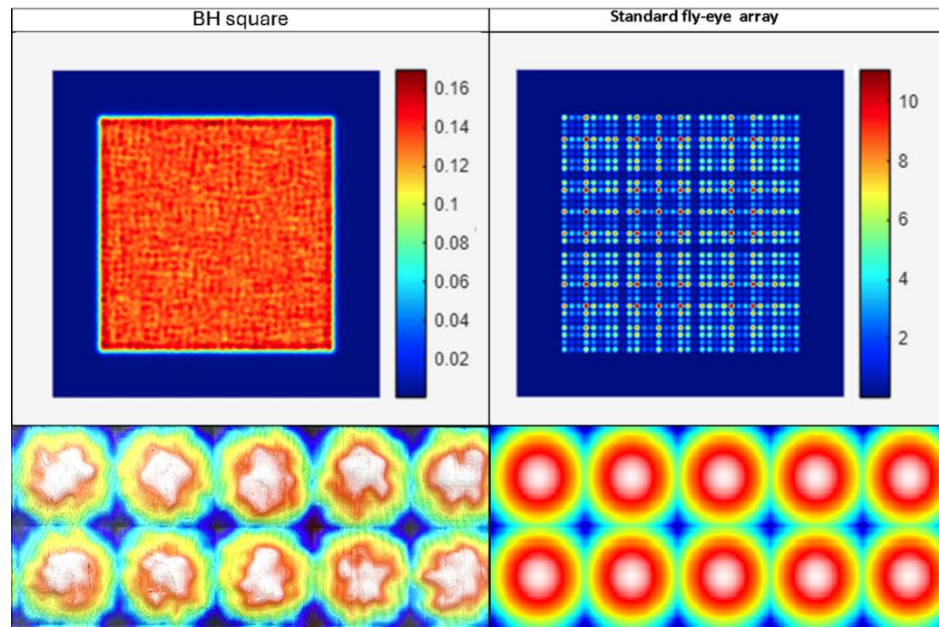
Coherent laser beam interference is useful not only in DLIP, but also for Brillouin scattering microscopy. In a [recent article](#), researchers from Tsinghua university used Holo/Or's DS-278-Q-Y-A beam splitter to split the pump beam into two, then interfered these beams, achieving improved gain and spatial resolution in Brillouin scattering microscopy. This technique is useful in biology for studying the mechanical properties of tissues without label or contact.



## Products and Applications

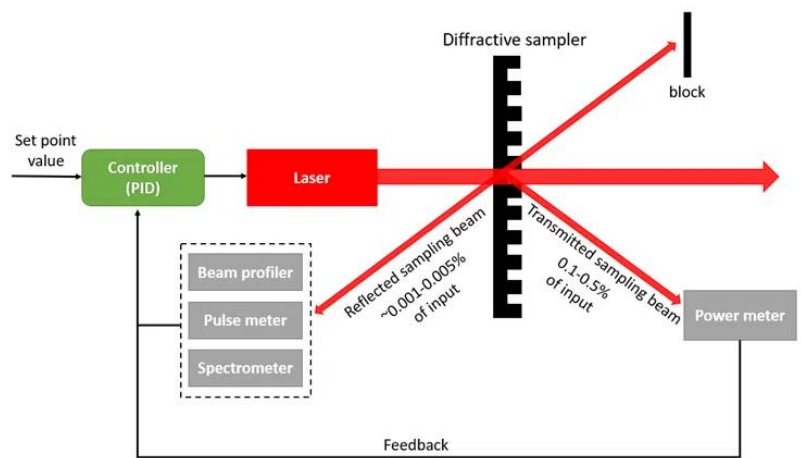
### Upcoming Product: Double sided square lens arrays with improved homogeneity

Our BH family of sharp edged, high uniformity diffusers with no zero order is expanding! We have designed a new type diffuser based on a double sided square lens array, with a full angle of 5.9X5.9 degrees and excellent intensity uniformity within the shape. These diffuser are suitable for many laser application- from aesthetic medical skin treatment, through UV laser material processing in the industry display and even multi KW multimode IR / green fiber laser shaping for welding and surface thermal treatment. Initial experiments are promising, and the product will soon be displayed on our [BD page](#). Feel free to [contact us](#) for more details.

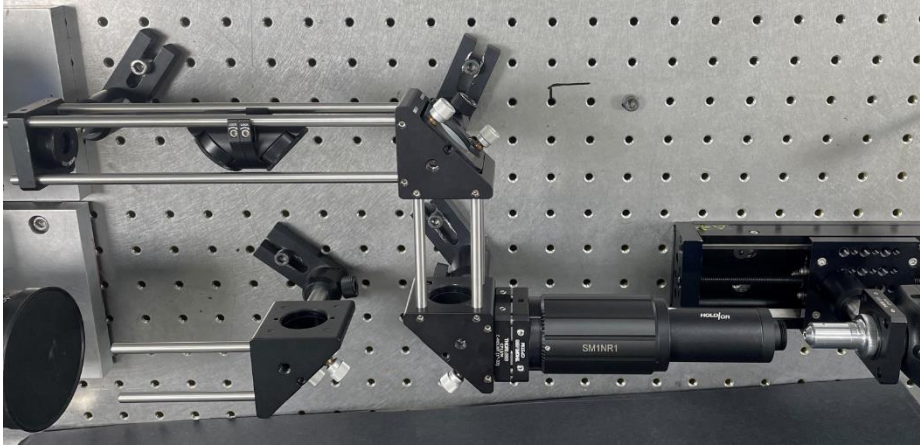


### New beam sampler for UV and ultra short pulse laser process stabilization

Holo/or has added a unique new member to our [diffractive beam sampler](#) product family, SA-230. Designed to sample 2% of the beam at a very low angle ( $<0.1$  deg for 266nm), this sampler enables in-process control by monitoring the beam using a beam profiler set very close to a long optical path. This allows to account for the effects of all optics in the path, unlike sampling at 90 deg using a reflective window. Holo/Or offer a wide variety of beams samplers that can sample beams at large angles (for more compact systems) and at ratios as low as 0.005%. To learn more, check out [our sampler application notes](#).



## First VB modules delivered to customers

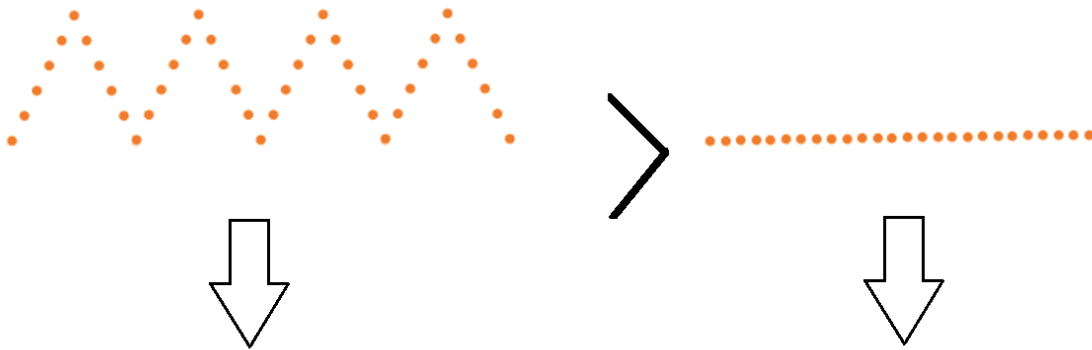


Our first batch of laser glass cutting [Variable Depth of Focus Bessel objective](#) have been delivered to the trailblazing customers who will be the first to enjoy the offered cutting flexibility. All modules are rigorously measured in our setup at multiple DOF settings including the maximum at 1.5mm, the minimum at 0.08mm and halfway.

The VB module has the same Bessel lobe size of  $1.8\mu\text{m}$  at any DOF setting, as it is based on a unique non-imaging optical concept. The individual test reports are supplied with each VB module, giving our customers the confidence that optical the performance is according the specs. For a quote or more details, please [contact us](#).

### Technical Tips

## Using staggered beam splitting design often improves process outcomes



Many customers use [Holo/OR beam splitters](#) to generate a line of spots, which is then scanned to generate parallel channels to process the workpiece along given lines. In some cases, especially when neighboring spots are close together, processing uniformity can be impaired. Holo/Or can design and produce a beam splitter that instead of a straight line, splits the spots with the same spot separation as a line but with spots staggered in the other axis (Zig-zag for example). When scanned, this pattern can process area as a line, but with much less spot to spot interference. Such a design also reduces undesired orders intensity, making it even better for material processing than a straight line.