Holo/Or Newsletter – Q4 2023

Company News

Celebrating the move to our new offices

Despite the challenging circumstances, we at Holo/Or have moved to our new , modren offices.

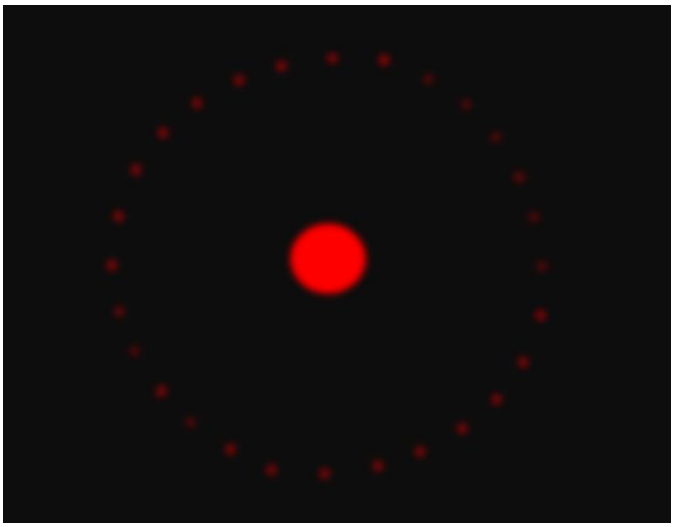
We were happy to celebrate the Hanukka winter holiday in our new break room. Looking forward to 2024!

Publications and conferences

Deepcleave showcased in a scientific article on laser glass cutting

Our DeepCleave glass cutting module has been show to cut glass and polymer with high speed and good qualityin an article by our partners at Fluence.technology. The deepcleave is a robust module which generates a modified Bessel beam with flat-top intensity profile in the focal direction , with a focus of ~1.8um for IR lasers and depth of focus up to 3mm in air. Feel free to contact us for a quote!

Products and Applications



A sample of what we can do- how to precisely sample tiny fractions of high-power laser beams

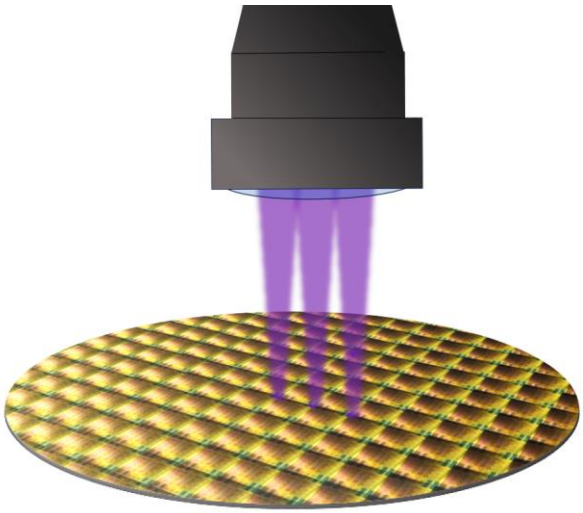
For extremely powerful laser beams, especially in the ultra-short pulse range, sampling the beam at very low sampling ratios is often required for beam analysis by cameras, as these tend to be easily damaged by high power.

Holo/Or diffractive beam samplers are a good solution for laser power monitoring in such applications.

We have recently developed a novel sampling scheme that allows for extremely low sampling ratios (<0.1%) while still maintaining good tolerance of the sampling ratio. This is done by our Circle sampler, where each of the outer beam has a tiny fraction of the input beam, thus reducing the total sampled power per spot by the number of spots . Contact us for beam sampler solutions.

Just the right shape to be groovy- Multi beam shapers for semiconductor wafer grooving & dicing

Laser grooving of semiconductor wafers requires high precision in resulting groove width and depth as well as high speed to ensure throughput. Such sharp edges can be achieved using our top hat beam shapers , which shape single mode lasers into any desired shape with flat top intensity, including rectangles often used in grooving. Another issue in these applications is ablated material re-casting back into the groove, often requiring several passes to get a clean line. To help our customer with this issue ,Holo/or can combine beam splitter functions with the grooving beam shapers in a single element that creates an array of shaped spots with controlled separations and equal intensities. This results in each groove line being processed multiple times and reduces re-casting, while still maintaining the groove width stability and sharp edges that are attributed to the flat-top spot profile.



Working on semiconductor laser dicing and grooving? Feel free to consult us for your beam shaping needs.

Technical Tips

Helping you find the right Aspheric lens for Bessel beam glass & polymer cutting applications

Finding the right focus optics for applications such as laser glass cutting can be challenging. Holo/Or's Bessel beam Elongated focus DOE / Multi focal DOEs often work with large beams at high NA, enabling tight focusing. This type of high NA Focus over a large aperture is often achieved by Aspheric optics, that have an advantage of cost and simplicity in such applications. However not all aspheric lenses are a good fit for this task. To help our customers select the right aspheric lenses, we at Holo/Or have published a short case study and selection guide. Read it here-

https://www.holoor.co.il/aspheric-focusing-lenses-for-focal-shaping-selection-guideand-case-study/