SINTEC NEWSLETTER

Sintec Optronics

Laser Expert in Singapore

February 2018 Issue www.Sintec.sg www.SintecOptronics.com

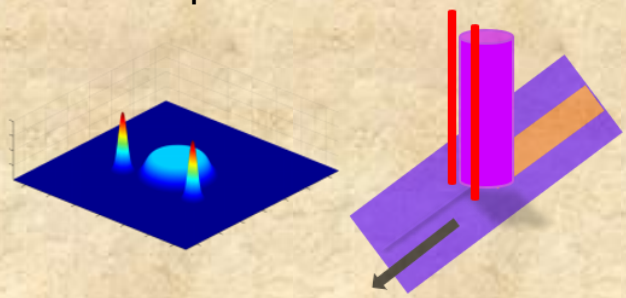
Quality and Excellence, presented by Sintec Optronics

NEW Diffractive Optical Elements (DOE) for laser Brazing

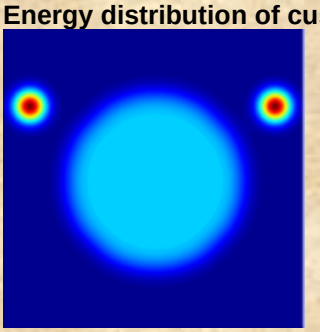
In laser brazing applications, two metal sheets are joined by a laser melted solder wire. The join quality has been proven to improve when the metal surfaces are cleaned and pre-heated before the brazing wire is melted. Typical applications are found in the automotive industry.

Relevant products: Custom Homogenizer

Laser ablation process:



Energy distribution of custom homogenizer:

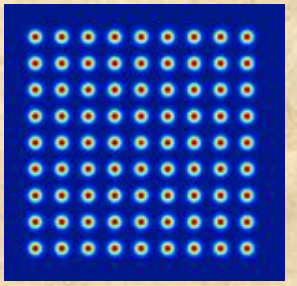


NEW Diffractive Optical Elements (DOE) for laser Perforation

A perforation is a small hole in a thin material or web. Laser perforation is typically used for sheet materials such as cigarette-tip paper or packaging foil for the food industry (prolongs the freshness and quality of perishable goods).

Laser perforation for food packaging:

9x9 multi-spot beam splitter:



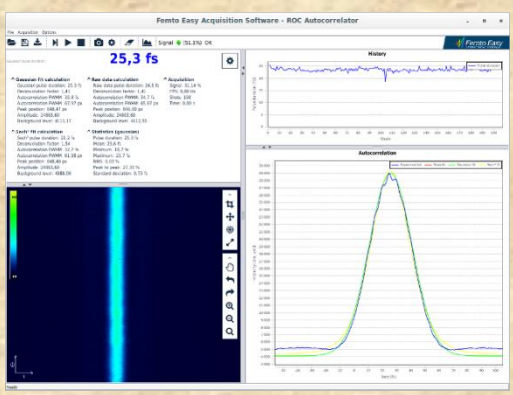
Such applications require precise microscopic holes of a desired pattern with equal distances. This is the beam-splitter DOE are the obvious solution.

Relevant products: Multispot

NEW ALIGNMENT-FREE Autocorrelator for ultrafast laser measurements

Our new product-line includes a single shot autocorrelator, capable of measuring few cycle pulses with interferometric resolution, and an innovative SHG single shot FROG. Both are suitable for several wavelength ranges (from UV to mid-IR) and several pulse durations, down to 5 fs. We also develop a innovative compact spectrometer and beam profilers.

Beside their intrinsic technical performances, our products are very easy to use, compact, portable and versatile, which make them the ideal tools for customer services. The products are associated with a high quality user-friendly software which contributes to make them easy and pleasant to use. We also make vacuum compatible measurement devices and custom products upon request and we provide our expertise on ultrafast metrology.



Our 2 major products can be installed in only **2 minutes** with **no necessary calibration**. It comes in an ultra compact (50x50x150mm) package for the long pulse model and a 50x50x250mm package for the fs one.

Our autocorrelator provides single shot measurements up to 200 kHz and down to 5 femtosecond pulses while our achromatic and non-dispersive single shot FROG can go down under 5 femtosecond pulses. They are designed specifically to be ultra easy to use and to align onto the laser beam. They **cannot be misaligned**, There is **NO internal freespace alignment!**!! There is no need for calibration or tweaking and they are easily transportable. And yes, they are rock-solid! Save your time for experiments instead!

SINTEC NEWSLETTER

Sintec Optronics

Laser Expert in Singapore

February 2018 Issue **www.Sintec.sg** **www.SintecOptronics.com**

NEW Low GDD mirrors and optics for ultrafast pulses

Low GDD Ultrafast mirrors are designed for femtosecond applications to provide an optimized performance at certain wavelength and angle of incidence (AOI). This is achieved by careful selection of coating stacks to combine high reflectivity and low GDD value (from -10 fs2 to 10 fs2 at design bandwidth) at the same time. Such coatings are used for external beam manipulation applications where pulse broadening effect is undesirable. Low GDD Ultrafast mirrors are intended for Ti:Sapphire, Nd:Glass, Er:Glass or Ytterbium doped host based lasers working in femtosecond regime. Variety of catalogue components allows to choose the right mirror for fundamental wavelength as well as for harmonics.

Low GDD Ultrafast Mirrors

Material	UVFS
Diameter tolerance	+0/-0.1 mm
Thickness tolerance	±0.1 mm
Clear Aperture	>90%
Surface quality	20-10 S-D
Surface flatness	<λ/8 @ 632.8 nm
Reflection GDD for s polarization	-10 fs^2 to 10 fs^2
Reflection GDD for p polarization	-20 fs^2 to 20 fs^2

NEW Color-corrected F-theta Scan Lens for ultra short pulse lasers

Lasers with pulses shorter than 1 picosecond, the laser creates a noticeable spectral bandwidth which will degrade the spot performance via chromatic errors. For example, an 800 femtosecond Gaussian shaped pulse has a spectral width of about 2 nm and a 250 femtosecond pulse has a width of almost 7 nm (1064 nm, FWHM). This will aberrate the spot in an F-theta lens which is designed to focus only one wavelength. We use multiple glass types in its design so all the wavelengths within a pulse are in focus at the work surface. The lenses have focal lengths of 100 mm, are telecentric, have scan areas of 35 mm x 35 mm and will accept a maximum 10 mm $1/e^2$ input beam.

The STSS4LFT7010/008 covers from 1500 – 1600 nm, the STSS4LFT7010/450 from 1000 – 100 nm and the STSS4LFT7012/292 from 510 – 590 nm. All three lenses are designed to have no internal ghosts or back reflections which can damage lens elements within the lens.

Our product range also includes an ultra-short pulse compatible beam expander with fixed magnification factor of three and designed for 1000 – 1100 nm range. The STSS6ASS4803/450 has a 10 mm ($1/e^2$) maximum input beam diameter and M30x1 mounting.2018! We wish everyone a prosperous year ahead. We look forward to serving our customers and meeting your laser needs!

Sintec wishes everyone Happy Chinese New Year 2018!!

Happy Chinese New Years to everyone for year 2018! We wish everyone a prosperous year ahead. We look forward to serving our customers and meeting your laser needs!

Promotional items!

We are currently overstocked on items such as Q-switch drivers, laser lamps, CO2 focusing lens and CO2 f-theta lens, high power fiber cable, ceramic reflectors, Optical galvanometers that supports 12-30mm apertures, and galvo drivers. Inquire about our stock items now and receive large discount! Our LSLC-DIGI self-tuning scanheads are on offer too!

Sintec Optronics (India)
Bangalore
E-mail: india@sintec.sg

Sintec Optronics Pte Ltd (Headquarters)
10 Bukit Batok Crescent #07-02 The Spire Singapore 658079
Tel: +65 63167112 Fax: +65 63167113
E-mail: sales@sintec.sg, sales@SintecOptronics.com
URL: http://www.sintec.sg, http://www.SintecOptronics.com