



Sintec Optronics

October 2016 Issue

SINTEC NEWSLETTER

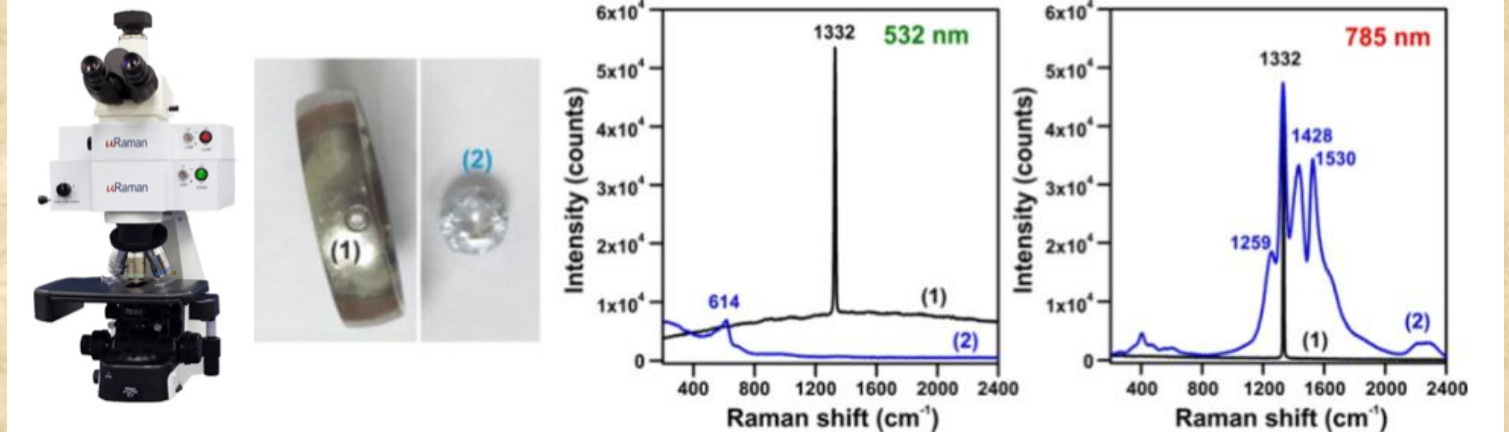
Laser Expert in Singapore

<http://www.SintecOptronics.com>

Quality and Excellence, presented by Sintec Optronics

Diamond Identification with Raman Micro Spectroscopy *NEW

Diamond (natural and synthetic) is composed of three-dimensional sp³-hybridized carbon atoms packed into an octahedral crystal structure. Such unique atomic arrangement contributes to distinct Raman signature peaks at 1332 cm⁻¹. The Raman signal from diamond is very strong from its sp³ carbon bond compared to sp² carbon bond in graphene and graphite. Therefore, Raman microscopy is ideal for gem-grade diamond authentication.



“Diamond 1” and “unknown diamond 2” and their corresponding Raman spectra is shown above. The optical micrograph and Raman scattering spectra of sample (1) shown in black graphs and (2) shown in blue graphs measured using 532nm and 785nm laser excitation wavelengths, respectively.

You can see there is a **distinct sharp peak from “diamond 1” (black graphs) at Raman shift at 1332 cm⁻¹** in both 532nm and 785nm measurements. But for “unknown diamond 2” (blue graphs), there is a broad peak at 614 cm⁻¹ in the 532nm measurement and multiple peaks (1259, 1332, 1428, 1530 cm⁻¹) in the 785nm measurement.

Conclusion: Hence, **“diamond 1” is an authenticated diamond**, whereas “unknown diamond 2” is a stimulated zirconia crystal!

Now, we are offering raman spectroscopy systems which can be tailored to measure all sorts of chemical compositions such as diamonds, gems, food, liquids, and even explosives detection from a distance away! **Inquire for more information about our Raman spectroscopy systems !**

LSLC-DIGI scanhead: Now able to swap mirrors without manual re-tuning !

As the LSLC-DIGI has self-tuning technology it is now possible to replace just the mirrors and let it auto-tune itself! It's so easy, even the customer can do it themselves! For example, if you want operate at 355nm or 10.6um (CO₂) instead of 1064nm wavelength, you can now just swap the mirrors instead of changing out the entire scanhead!

Conventional galvos require re-tuning when you change the mirrors, due to mirrors for other wavelengths are made of different material and hence have different weight. I'm sure you know that manually re-tuning galvos for different mirrors cost much time and effort! Now, you don't need to spend so much time!

Once you swap the mirrors and the LSLC-DIGI is switched on, it performs a detailed self diagnosis and system check to determine the operating parameters of the individual galvos. This ensures the accuracy and positioning of the laser marking is precise and error free. This eliminates the expense of either calling out a service technician to tune in replacements or the need to return the scan head to us. This saves both time and money – and enhances your system's reputation and decreases downtime for your customers! **Inquire now for your trial!**





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We exhibited at Laser World of Photonics India !

It was great to see everyone at the exhibition. This year's exhibition had a good turnout, we met many customers at our booth. Thanks to everyone to attended and spoke to us! We really enjoyed ourselves this year!



Office in Bangalore! *NEW

We are pleased to announce our new office in Bangalore! The new office will be fully operational by the end of the year, but we have already started basic operations. The purpose of this office is to provide good service and fast response to our customers in India! Our sales engineer will be happy to meet you for a chat and discuss your needs. The primary contact for our India office is india@sintec.sg

Promotional items!

We are currently overstocked on items such as Q-switch drivers, laser lamps, CO2 focussing 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!

Price reduction over all our products!

Our prices have also recently reduced over all our product range! Please inquire our sales for updated price lists !

Sintec Optronics (India)

No-52-B/5, 2nd floor, Om Sai Dham, 1st main
Siddhi Vinayak Layout,
Sanjay nagar, Bangalore 560094
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>