

LBP Newsletter December 2014

LBP mirrors in orbit!

On 8th July 2014 the UK's TechDemoSat-1 spacecraft was launched with some of our gold coated metal mirrors on board! A joint project between UK industry and academia the 1 metre cubed 150kg satellite has eight payloads. The key one is the Compact Modular Sounder (CMS) from the Oxford Planetary Experiments Group. CMS was built, qualified and tested in Oxford, with electronics designed and developed at the Rutherford Appleton Laboratory.

The gold coated aluminium infra red telescope mirrors were made by LBP. The gold coating's broad-band infrared reflectivity and the low mass of the aluminium substrates are perfect for this application. It's also great news for us that the mirrors have been "space qualified" by Oxford University.

The size of a shoebox and weighing just 4.5kg, CMS is designed to do the job of a much bigger, heavier instrument at a fraction of the cost. The eventual aim is to send CMS into deep space to use its infrared technology to create thermal maps of the surface of a Near Earth Asteroid.

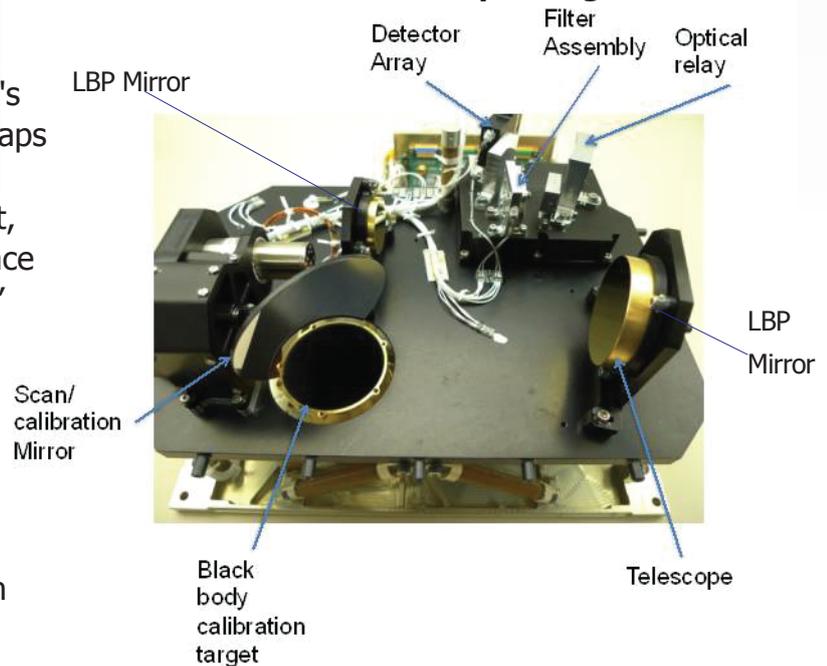
Dr Neil Bowles of Oxford University's Department of Physics, a member of the Oxford team that built CMS, explains further. "Imagine that an asteroid is detected on a possible collision course with Earth, with enough time that we have options to deal with it. One of the most important things we need to know is how its orbit might change with time: will it hit us or just fly by? If it looks like it could hit us what could we do about it?"

One option is to send a spacecraft to investigate, and an accurate temperature map of the asteroid's surface is likely to be very useful. Temperature maps can tell us about the rockiness of its surface, so where is a good place to land a robotic spacecraft, and how heating from the Sun and cooling to space can 'push' the asteroid around changing its orbit."

Unfortunately we won't see the mirrors again, as after its three year mission the satellite will be slowly sent into the Earth's atmosphere to burn up.

Its possible to see the satellite's real time location on the internet www.n2yo.com/?s=40076 and on twitter #techdemosat

CMS Hardware as built incorporating LBP mirrors



Contact us for help,
information and prices:

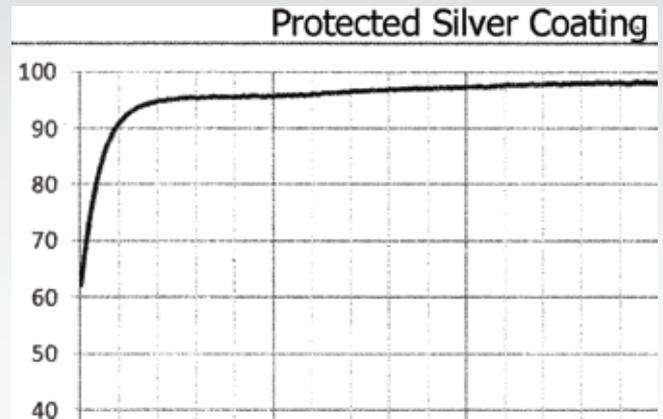
www.lbp.co.uk
+44 (0)1767 600877
sales@lbp.co.uk

We can provide substrates for customer coating..

Although we offer our metal mirrors with different types of coatings for use with soft UV, visible, IR, even THz wavelengths there are times when our customers want to make their own coatings. We can provide mirror substrates that are polished, cleaned and ready for further coating. Because most of our mirrors use an amorphous layer of electroless nickel there is no problem with oxidation, staining, or complex vacuum packing. It needn't be just "optical" coatings either, we have customers using functional coatings chosen for their hardness, magnetic or electrical properties.



Mirror substrates



Exhibitions update

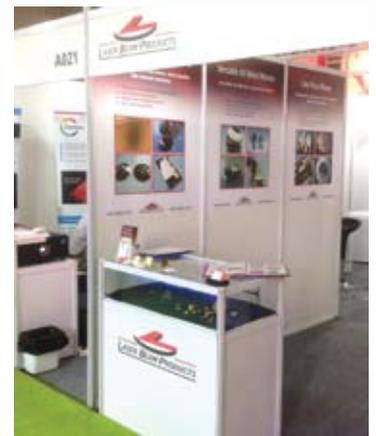
Laser World of Photonics, Bangalore, India, 23-25 September.

We attended the exhibition in India for the first time this year. It was a fantastic experience for many reasons, but what was clear was that the laser and photonics industry is booming in India. We were made extremely welcome by everyone we met and made some excellent connections with businesses in the region.

Coming up...

SPIE Photonics West, San Francisco, 10-12 February 2015

We will be exhibiting at the Photonics West show in San Francisco once again next year as part of the UK Pavilion alongside some other UK businesses. It's always a great show and an excellent opportunity to meet with customers and distributors in the USA. Let us know if you are planning to visit and come and see us at Booth Number 5117.



How to contact us:

Tel: +44 (0) 1767 600877 Fax: +44 (0)1767 600833
Email: sales@lbp.co.uk Web: www.lbp.co.uk
BLOG: laserbeamproducts.wordpress.com

You can also follow us on Twitter, Facebook and our blog

Laser Beam Products Ltd, Units B&C Stratton Park, Dunton Lane, Biggleswade, Bedfordshire SG18 8QS, United Kingdom

