Optics Balzers News - 05.04.2016

Filters from Optics Balzers on their journey to the Red Planet

The first of two joint ESA-Roscosmos missions to Mars has begun a seven-month journey to the Red Planet on a Proton-M rocket. The European Space Agency's ExoMars Trace Gas Orbiter (TGO) will carry out investigations to try to determine the biological or geological origin of important trace gases on Mars. Schiaparelli will test key landing technologies for ESA's contributions to subsequent missions to Mars.

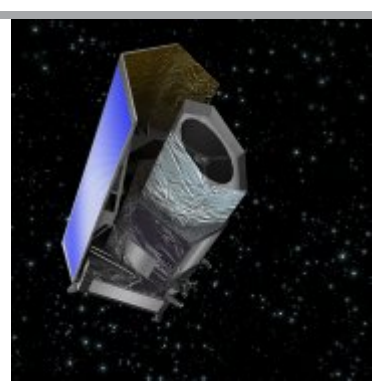
The camera system CaSSIS (Colour and Stereo Surface Imaging System) designed and built at the Center of Space and Habitability (CSH) of the University of Bern was launched to space with the ExoMars on March 14. The instrument will obtain stereo images of the surface in colour at a resolution of better than 5 m.

Optics Balzers Jena delivered a single monolithic radiation resistant fused silica substrate with filters deposited on it. Different coatings with different transmission properties cover the substrate and produce the CaSSIS Filter Strip Assembly (FSA) of the Focal Plane System.

More information

Picture credit to University of Bern

New space project contract signed



Optics Balzers Jena and Max Planck Institute for Astronomy (MPIA) recently signed the contract for the delivery of the Euclid NISP Infrared flight filters.

Euclid is an ESA survey mission to investigate the nature of dark matter and dark energy. The mission will be launched in 2020 and will orbit around the Sun-Earth L2 point located 1.5 million km from Earth. The mission is scheduled for six years. Its primary scientific goals are targeted towards understanding the universe on its largest scales: how has the universe evolved since the Big Bang, and what are the fundamental physical laws dictating this evolution? The Euclid Satellite will image billions of galaxies as well as measure tens of millions of spectra.

The Euclid Scientific Consortium (EC) is composed of over 1200 scientists and engineers from 14 European countries.

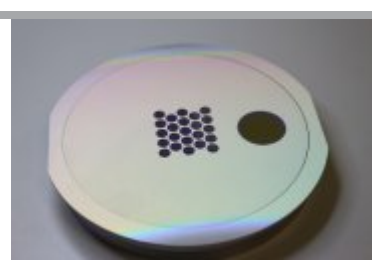
OBJ will provide the coatings for NISP Instrument's three near-infrared (Y-, J- and H-band) filters. These high-precision optical elements are particularly challenging as, with a diameter of 130 mm, they are significantly larger than any filters that have been flown in space before.

As part of the Euclid mission, OBJ is also responsible for the coating of the dichroic filter plate contracted by Airbus Defence and Space.

More information:
Optics Balzers
Esa Euclid
MPIA Euclid
Euclid Consortium

Picture credit to ESA

Coating capability at Optics Balzers Jena GmbH increases by 20%



A new sputtering coating machine was successfully installed in the Jena plant during the last months. After installation a series of detailed tests were performed to evaluate the new coating machine in detail. During this time, several coating material combinations were tested extensively. After the entire test, the reached values are truly promising.

As expected, the new machine shows an extraordinarily high level of coating uniformity across the coating surface. For a diameter of 160 mm, the inhomogeneity is typically below ±0.5 %. In combination with the unique know how of process control and monitoring based in Jena, challenging products for space, sensors and biomedical application can be developed now.

A second key feature of the new coating machine is the high level of material density during the layer growth. This is generated by an additional energy source during the coating process. First tests and the measurement of the laser induced damage threshold (LIDT) confirm the expected results. High reflectivity mirrors (HR) were made and tested for several wavelengths. For the Nd:YAG wavelengths around 1064 nm and around 266 nm, which are typically used in material processing, the LIDT is off to a very good start with >70 J/cm² and >6 J/cm², respectively. Compared with other players on the market of laser products, this value is truly promising for the future. These measurements are the basis for the upcoming development of so called ultra-short pulse mirrors and mirrors with dispersion shift control, used in femto-second application. Especially for the new activities in the field of laser components, these results bring our clients a strong advantage both in optical performance as well as in the reliability of their products.

The new coating machine is already fully integrated into the daily working routine. Due to the high load capacity and special functionality, the new machine has already taken a large share in the cost-effective and timely production at Optics Balzers Jena GmbH.

Future step: starting to think about the next machine…

More information

Thanks for your Visit at SPIE BiOS / Photonics West 2016

Exhibition – Review

BiOS and Photonics West are the largest photonics industry exhibitions in North America held annually in early February.
Optics Balzers was one of 1345 companies showing their products to over 22,400 attendees this year.

Some of the key products that we showed this year included gesture control (TOF) filters, PBS, HUD components, as well as Raman and fluorescence filters, and we had a solid representation of personnel from Balzers as well as Jena at the booth to help potential customers with any questions they had.

One of the highlights in our booth was our gesture control monkey which was a great conversation starter and attracted many visitors. Engaging potential customers in discussions allowing us to explain what we are all about is one of the key goals of attending this type of exhibition and a very important part of our brand building efforts.

We had several meetings with existing customers and suppliers and collected many interesting leads for potential new business while we also got to see what some of our competitors are up to. Overall the show was one of the busiest ones we have seen in years.

Thanks for your visit!

Our next Events...

Analytica, Munich

Visit us at the Analytica fair in Munich from May 10-12, 2016 and meet with our experts for specific advice. Also join our presentation about "High-End Optical Filters for Biophotonics and Biofunctional Coatings Enabling Biochip Manufacturing" by Jan Broßmann, Research & Development, on May 10 at 3pm.

Please follow this link for more information and to request free admission.

VDI - Optical Technologies in the Automotive Industry, Karlsruhe

Optics Balzers has been the preferred partner for innovative optical solutions for more than 70 years. As a global leader, Optics Balzers focuses on high-tech markets including Automotive. Visit our booth at the conference from May 11-12, 2016 and get more information here.

Lasys, Stuttgart

The industry meeting place for manufacturers, users and decision-makers from all over the industry: LASYS is the leading international trade fair to focus on the use of lasers in industrial manufacturing.

Visit us at our booth from May 31 to June 2 and get free admission and more information here.

OPTATEC, Frankfurt

Join our presentation about "Optical components for augmented reality – A new challenge for manufacturing" by John Freiermuth, Business Development Manager, on June 7, 2016 at 9.40am.

Visit us at our booth from June 7-9, 2016 and meet with our experts for specific advice. Please follow this link to get more information and to request free admission.