DOI 10.1515/aot-2013-0008 — Adv. Opt. Techn. 2013; 2(1): 7–8

Community

Conference Notes

Frontiers of Optical Coatings (Review)

Hang Zhou, P. R. China, 15–18 October 2012

The FOC (Frontiers in Optical Coatings) is one of the two major international conferences on optical coatings. Both take place every 3 years, the FOC in Hang Zhou is the newer one whereas OIC Optical Interference Coatings (organized by OSA) started more than three decades ago. The next OIC is scheduled for 16 June–21 June 2013, in Whistler, British Columbia, Canada.

The Frontiers in Optical Coatings FOC is organized by the Chinese Optical Society. The main topics of the conference range from basic technologies (design, coating materials, deposition technology, characterization) to the various applications in fields such as high power laser, DUV to EUV, ultra-fast optics, coatings on polymers, active thin films, structured thin films and coatings for green energy, etc.

Some statistics

More than 200 scientists from 17 countries took part in the FOC 2012. The majority of the participants came from China, and the second biggest delegation came from Germany. The conference saw 21 invited and 73 regular presentations plus a Poster exhibition. With 29% of the invited presentations Germany led the field in front China (25%) and France (13%). Among the regular presentations China was dominant with more than 50% of those taking part.

Coating technology, looking specifically at magnetron sputtering was discussed in 39% of the talks, followed by ion assisted deposition (IAD) and ion beam sputtering (IBS). As one may see, sputtering technologies are still rising, whereas conventional evaporation technologies (as still used in the optical industry) are in decline.

More than 200 scientists joined FOC 2012, among them more than 60 experts from abroad.

What was remarkable?

The market growth for coatings and coating technologies is still enormous. It can be expected that the majority of production of consumer products such as smart phones, displays and cameras will be made in Asia with China having the biggest share. China not only dominates this huge mass production but has also caught up in fields like lithography and laser technology.

There have been very remarkable achievements by Chinese research institutions in the field of high power laser applications in recent times. With massive governmental support projects for the development of giant laser systems have been established. Among others, researchers from the Shanghai Institute of Optics and Fine Mechanics and from Tongji Universität presented results on the defect induced damage mechanisms and on the development of ultra high power coating systems for the fundamental and second harmonic wavelength of a Nd-laser. Earlier results of these groups have already been presented at conferences in America and Europe, but the progress shown at FOC 2012 was impressive and reflected the high strategic importance of this field in China.

In this context researchers from SIOM proudly presented a recent success at the annual Boulder Damage Symposium. There, the annual contest for high power coatings focused on polarization beam splitters for 1.064 nm (p compontent). The team from SIOM achieved first place with the best damage threshold and other Chinese groups also achieved top positions.

The next FOC is scheduled for 2015, more information may then be found at **http://www.focasia.cn/**.