

Optical Drawing Standards Focus on "How," Not "What"

Now that the new ISO 10110 Optical Drawing Standard has been sent to the ISO Secretariat for printing as an international standard and there is an ANSI/NAPM IT.11 Committee for administering U.S. national standards, a low level debate is going on about the potential for conflicting U.S. and international optical standards. This issue is of particular concern to the parties who want to convert U.S. military standards for optics into U.S. national standards and sell them as a means of raising money to support further optical standards writing activities.

This concern is somewhat reminiscent of the vocal critic of an off-color movie who thinks the film should be banned, yet has never seen the movie. The ISO 10110 Optical Drawing Standard is all about *how* to indicate what one wants, whereas most of the MIL standards are about *what* to indicate in the way of performance desired. In this instance, the ISO 10110 Optical Drawing Standard explains how one is to indicate what one wants in the way of specification on an optical drawing. The standard says nothing about what the parameters of the specification should be in any given instance.

Conversely, most of the U.S. military optical standards are performance standards, and specify how well an optical element should be polished or how durable a coating should be. The infamous MIL-O-13830A—Scratch and Dig standard—specifies (among other things) how many and what size scratches and digs are allowed depending on the function of the optical element. It advises that larger scratches may be allowed on objective lenses than on field lenses because scratches on objectives will have little effect on optical performance, but scratches of the same severity will be quite apparent on field lenses.

The conversion of MIL standards into voluntary standards is quite independent of ISO 10110, except in terms of how performance is to be indicated on a drawing in the way of symbols and numbers. Clearly, any conversion

of the present MIL standards into voluntary ones should take into account the new methods of making these indications, and do nothing to exclude the possibility of expressing the requirements in terms of the ISO standard.

Instead of worrying about potential conflicts between ISO 10110 and the existing MIL standards, time would be better spent figuring out how, for example, to indicate an 80-50 scratch-dig surface in terms of the new formalism of the ISO standard. This conversion has already been somewhat simplified in that the U.S. Army has revised MIL-O-13830A to show the photometric equivalents of the standard

scratches in terms of the light scattered by the scratches. This makes possible a direct comparison of the Army scratch visibility standards with the line width standards referred to in ISO 10110.

In addition, the Standards Handbook now being finalized by the OSA Standards Committee will help interpret the new ISO 10110 in terms of the more familiar MIL and voluntary standards. It is hoped that there will be more attempts to read and understand all optical standards so they may be revised and improved strictly on the basis of their technical merit. ■

—Robert Parks

Topical Meeting Preview

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fractive material. Allyson Beuhler (Amoco Chemical) will report on high temperature and low optical loss polyimides for integrated optics. Anthony Garito (University of Pennsylvania) will report on new high temperature chromophores for polymeric electro-optic materials. Mark Kuzyk (Washington State University) will describe highly nonlinear single-mode polymer optical fibers, including some novel device concepts. Joseph Zyss (CNET) will discuss theoretical and experimental aspects of octupolar nonlinear optical interactions. In separate papers, T. Kobayashi (Tokyo University) and Andre Persoons (University of Leuven, Belgium) will report on new measurement techniques for second- and third-order nonlinear optics.

The meeting will be held at the beautiful and historic Royal York Hotel, a short walk from the Metro Toronto Convention Center, site of the OSA Annual Meeting. As a benefit of this collocation, registrants of the Organic Thin Films topical meeting will be able to attend Annual Meeting sessions at no extra cost.

The topical meeting is co-chaired by Gary C. Bjorklund (IBM, Almaden Research Center) and Alan D. English

(DuPont Experimental Station). Program co-chairs are Curtis W. Frank (Stanford University) and Kenneth D. Singer (Case Western Reserve University). ■

—Gary C. Bjorklund, general co-chair and Kenneth D. Singer, program co-chair

Recent Research

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results in the production of the high degree of synchronization between the pulse sequences. Application of this laser arrangement to other gain media creates the possibility for similar dual-wavelength performance of self-modelocked lasers operating in alternative wavelength regions. Ultrashort pulses may also be generated in the mid-infrared by difference frequency mixing of the two pulse trains, they say. ■

—George Leopold