Draft Minutes

ASC OP/TF 6 – Committee for Optics and Electro-Optical Instruments – IR Materials and **SPIE IR Materials Working Group** (joint meeting)
(Held in conjunction with SPIE Photonics West)
February 3, 2014 16:00 - 18:30 PST

Intercontinental San Francisco
888 Howard Street, San Francisco, CA 94103
Laurel Hill Room (4th Floor)

1. Welcome, Introductions and Appointment of note-taker

Adam Phenis called the meeting to order at 16:14 PST. In attendance Dan Palmari, Erik Stover, Guangming Tao, Chris Svec, Gordon Boultbee (observer), Tom Neff, Pat McKibben, Cheryl Asburg, Donna Howland, Bob Hainsen, Ron Scotti, David Hasenauer, Kathleen Richardson, Allen Krisiloff, Leonard Hansen, Jennifer McKinley, Peter Wachtel, and Dave Aikens. On the phone were Ian Murray and Doug Leviton. Everyone introduced themselves. Quorum was established.

2. Approval of the agenda

Ron Scotti moved to accept the agenda, the motion was seconded by Leonard Hanssen and the motion passed.

3. Approval of the minutes for the prior meeting

Ron Scotti moved to accept the minutes from the April, 2013 meeting, David Hasenauer seconded and the motion carried.

4. Reports

a. Refractometer Status Update (NIST)

Leonard Hanssen provided an update on the work going on at NIST. They have extended their index measurement capabilities to the mid-IR at room temperature. His presentation is available on the website, and will not be repeated here.

Leonard reported that NIST felt the method used for dn/dT measurement may not be appropriate for routine measurements, since it is overly complex. NASA for example scans through temperature, while NIST moves to a temperature and sits until the temperature is equilibrated. Dave Aikens pointed out that we need some kind of starting point for a dn/dT measurement standard, even if we are going to have two methods.

Once a draft exists, we can expand it to include additional ways to measure dn/dT. Dave asked that NIST still document a standard measurement method in accordance with the NIST approach, along the lines of the ISO homogeneity measurement standard. NIST (John Burnett) was asked to provide a draft of this standard.

Action: Dave Aikens to provide NIST with an editable template for an American National Standard for Optics

Action: John Burnett to document the dn/dT measurement method as a draft ANS or as a modification to an ISO standard.

Leonard also pointed out that, in review of ISO 15368, he concluded that it is a reasonable standard, but that it should be updated for modern methods and instruments. We can adopt it and modify it, or modify it at the ISO level first.

Action: Dave Aikens to request that an update to ISO 15368 be added to the agenda at Berlin's meeting of SC1. Depending on the time-line to update the standard, we will either release an American version or hold off till the review at the ISO level is complete.

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b. State and Commerce guidance on ITAR (LMCO)

Adam Phenis reported for Gary Wiese that he served on an advisory committee regarding ITAR (SITAC). There are 5 people on the subcommittee. The subcommittee made a slide package for the Commerce department. Commerce has not yet replied, but at the meeting, they reviewed the munitions list (USML) and the commerce control list (CCL.)

The discussions focused mostly on optical devices; IR materials are a small side issue. Laser materials and ZnS are mentioned specifically. This is assumed to be because ZnS is used as a missile dome. Nevertheless, it has been a long time since lists have been reviewed and people all over the world are now making ZnS. Making them controlled affects our own business in the US. The preference of the committee is to put devices on munitions list only if they are developed specifically for a military purpose, and then only be on the list for something like 3 years. It makes sense to treat materials as devices if developed specifically for military purposes. Still, the points made were

recommendations only, which may or may not be adopted as policy. It may be worth noting that nobody on the SITAC committee or the subcommittee indicated that they felt material properties should be controlled as a general policy.

c. Pilot refractive index measurements (LMCO)

Adam Phenis also went through Gary Wiese's slides for the pilot campaign of index measurements. There are now many more samples in the pilot effort than originally planned. The details of the presentation are provided on the website (ASC OP - TF 6 Phenis 20140203.pdf) and will not be included here. It includes detail drawings of the required "standard prism" and "standard disk" that are needed.

d. Sampling protocols update (Leidos)

Adam Phenis gave us an update on the sampling protocol standard. Basically, no progress has been made, since we are waiting for the pilot measurements campaign first. The plan is to complete the pilot study, and then document the sampling protocol based on what statistics are required, and provide the data set that should be documented for all materials.

Dave Aikens mentioned that perhaps we could document these standard geometries and sampling protocols from the pilot study, just so we have something documented.

Action: Adam Phenis to draft a sampling protocol standard, documenting the sampling locations and the drawings for the standard pieces.

Dave Aikens asked if there was a standard data sheet that we could reference. Gordon Boultbee offered that there was an ISO standard for an IR materials data sheet we could reference. Adam Phenis said that there was already a reasonable list of properties (included in his presentation) but that crystal orientation should probably be added.

Dave Aikens asked David Hasenauer if there was a documented schema from the optical design codes of what information they needed and what format was required. David Hasenauer said that he had sent it out once, but would re-send it to Dave, Gary and Adam.

e. Materials metrology instrumentation (Schott)

No one was attending from Schott, so this item was tabled until next meeting.

f. Standardized reference wavelengths (OEOSC)

Dave Aikens reported that we now had a draft standard for reference wavelengths and wavebands in the IR. He will circulate it to the TF for further discussion and vote. While all comments will be welcomed from both groups participating, for standards

development purposes only the current members of OEOSC ASC OP/TF6 are allowed to vote on the advancement of the standard to the OP level. So anyone in the SPIE IR materials working group, but not a member of ASC OP/TF6, will be treated as observers to ASC OP/TF6.

g. Other reports and updates (project leaders)

There were no other updates from other project leaders.

5. Group discussion topics

Erik Stover offered that he has six samples, of three types, of cleartran that have been extensively studied. He is willing to make these available to the committee for a round robin test of the various measurement laboratories, if this would be useful.

Action: Adam Phenis to discuss with Gary Wiese to consider how this could be best used in the pilot study.

6. Time and place for next meeting

Kathleen Richardson moved that we schedule another general meeting of the joint working group for Monday, May 5 at 16:00 in conjunction with SPIE DSS in Baltimore, MD. David Hasenauer seconded the motion, and it carried.

7. Adjourn

At 18:14, Erik Stover moved that we adjourn. David Hasenauer seconded and the motion carried.