Meeting Minutes (Draft 1)
ASC-OP/TF7: Lasers

Sunday, January 28, 2018

Sutter Room, 5th Fl, Intercontinental Hotel, 888 Howard St., San Francisco, CA

CALL TO ORDER AT 10:00 AM PST: Michael Thomas, Chairman of TF7

WELCOME AND INTRODUCTIONS

Members

1. APOMA, Walt Czajkowski (Voter Present)	**7. NIST, Leonard Hanssen (Alternate Present)**
1. APOMA, Tom Ward (Alternate Present)	**7. NIST, Michelle Stephens (Alternate Present)**
2. Edmund Optics, Nathan Carlie (Voter Present)	**8. Optimax, Patrick Augino (Voter Present)**
2. Edmund Optics, Jay Nelson (Alternate Present)	**9. REO, Trey Turner (Voter Present)**
3. Gordon Boultbee, Gordon Boultbee (Voter Present)	**10. Savvy Optics, Dave Aikens (Voter Present)**
4. Hal Johnson, Hal Johnson (Voter Present)	**11. Spica, Michael Thomas (Voter Present)**
5. Lockheed-Martin, Dan Palmari (Voter Present)	**12. Triptar, Allen Krisiloff (Voter Present)**
6. NGC, Jonathan Arenberg (Voter Present)	13. Coherent, Inc., (Voter Absent)
6. NGC, Donna Howland (Alternate Present)	14. E.R. Precision Optical Corporation, (Voter Absent)
6. NGC, James Chung (Alternate Present)	15. Quantel USA, (Voter Absent)
7. NIST, Marla Dowell (Voter Present)	

Quorum achieved: 12/15 > 7/15 (50%)

Observers, Guests

1. Coherent Technologies, John Bellum (Observer Present)	*2. University of Houston, Surobhan Das (Observer Present)*

RECORDING SECRETARY: Allen K.

ADOPTION OF AGENDA: Motion by Michael T. Second by Trey T. Passed 100%.

APPROVAL OF MEETING MINUTES FROM 2017 JUN 19

Short discussion: Michael T. related that there was an informal meeting of just 4 people from TF7 in Boulder in September during the SPIE's Laser Damage Symposium. No minutes to report. Some European colleagues expressed support for the modification of ISO 21254-2 along the lines of our suggestions for statistically based, flat-top test fluence.

Motion by Michael T. Second by Trey T. Passed 100%..

OVERVIEW OF STATISTICS AND TESTING PROTOCOLS (NATHAN C. AND JON A.)

Small, Gaussian test beam diameters and low numbers of test shots will simplify and accelerate testing protocol but will produce poor assessments of damage thresholds. It is misleading to use high fluence to estimate the damage resistance in a low fluence application. DIC microscopy is needed to examine test areas after exposure; scatterometry has poor signal to noise ratio. Cleanliness of sample surface is critical but difficult to assess.

The mathematical description of testing protocols is complex. A spreadsheet definition for two types of tests makes good sense. The algorithm for determining beam size, fluence, and numbers of shots can be built into the spreadsheet so as to hide the complexity from the typical user. The Type 1 test can be tailored to address the needs for faster, less costly, and less accurate (riskier) assessments that are typically needed for lower cost, higher volume components. The Type 2 test can be tailored to address the need for slower, more costly, but more accurate assessments that are typically needed for higher cost, lower volume components.

Discussion included thoughts on the value of developing a draft standard, perhaps drawing from the NIF protocols for laser damage testing, including a first draft of spreadsheet-based definitions for two levels of testing. A class can be developed to help the community understand and implement the standard.

ACTION ITEMS

1. Allen K: provide ANS template to Jon for development of an early draft.
2. Jon A: create a draft of a standard for critique and discussion.
3. Allen K: file a PIN for a new American National laser damage standard.

ADJOURNMENT AT 12:00 PM: Motion by Dave A.; Second by Nathan C. Passed 100%.