

Draft Minutes

ASC OP/TF 3
Committee for Optics and Electro-Optical Instruments
Wavefront Standards Meeting

February 3, 2015, 11:00 EST

Telephone conference
Callin number: (866) 576-7975
Participant Code: 305866

Welcome and introductions P Takacs brought the meeting to order at 11:00 EST, with D Howland, P Murphy, R Smythe, and D Aikens in attendance

Approval of Agenda R Smythe moved we accept the agenda as modified to add OP1.004, and D Howland seconded. The motion carried.

Approval of Minutes from February 2014 Meeting D Howland moved we accept the minutes from the previous meeting, modified to correct the spelling of Areal, R Smythe seconded and the motion carried.

Wavefront Standards

- a) OP1.004 – D. Aikens summarized the ballot on OP1.004. There were sufficient votes in favor of adoption, but there were some significant comments that need to be addressed before we can proceed. P Takacs and P Murphy will meet offline with the project leader and close out the remaining issues.
- b) OP1.005 - P Takacs walked the committee through the comments received on OP1.005.

We discussed the issue that the example and all of the equations are based on square data sets, but not circular ones. It may make sense to at least make note of the existence of other methods.

Another comment was that f_{min} is undefined; after a brief discussion, we concluded we should add a definition of f_{min} in section 5.

At this point we realized that there were two versions floating around; the one that had been balloted, and one that Peter had sent out personally. The key difference was an Annex C, which is a test case based on Fibonacci numbers. We concluded that such a data set would be useful. One reviewer commented that a 2D version would be helpful; P Takacs will look at that mathematics.

Another observation was that we only cover Fourier techniques for Statistical surface evaluation, and our title is more general than that. Even so, we concluded that the title and scope were correct, and we may add to the document with ACV or other methods in the future.

The term areal is used to consider all 3D data sets. Should we be more careful about delineating that we mean texture or topography? After discussion, we decided to just leave it alone, since the term is defined and used in B46.1, which is referenced.

Another comment involved data holes. We do not currently define what method can be used to data fill or interpolate to fill in data holes. P Murphy offered to find out what QED does and get the info to the project leader. We will add some advice or caveats regarding data filling, and/or provide some sample methods to deal with issues if possible.

The final discussion was the philosophical argument regarding binary filters versus more gentle, non-binary filters. Binary masks tend to ring like mad, and many people don't like them. One can imagine a surface which pathologically would exhibit bad behavior in the case of such a filter. P Takacs pointed out that such a pathological surface is out of scope, since it would not be a windowed, sampled and detrended optical surface. In addition, if you never go back into the spatial domain, the ringing shouldn't matter since Parseval is preserved.

We also discussed a couple of minor wording and math errors that the project leader agreed to fix.

Action Items from this meeting

Action: P Takacs will contact C Evans to schedule an offline meeting to review the comments and complete OP1.004 for publication.

Action: P Murphy will get information to P Takacs regarding some alternatives for filling data holes.

Action: P Takacs will get a new draft to D Aikens starting from the May 2014 edition and making the requested changes by March 1.

Action: D Akens will post the document when it is available

Time and place for the next meeting D Howland moved that we schedule the next meeting for the week of April 20, 2015 at SPIE DSS. Telecon capability will be made available. R Smythe seconded and the motion carried.

Adjourn. D Howland moved we adjourn, and R Smythe seconded. The motion carried and we adjourned at 12:54 EST.