

Consensus Result: Proposed List of Terms and Definitions

Consensus vote start: 25th of November 2019
Consensus vote end: 9th of December 2019

Consensus Vote result:

Number of votes: **48**

Agreement: 38 (**79.2%**)
Reservation: 9 (18.8%)
Standing Aside: 1 (2.1%)
Rejection: 0 (**0.0%**)



Vote outcome:

With >70% agreement and <10% rejection, the document will be published on the IPASC.science website and will remain labelled “for consultation and feedback” at least until the 9th of December 2019.

Feedback comments during the vote:

2d uses a term that is defined in 2e (hence: switch the two?)

3a tissue-mimicking material: I wasn't sure whether you really mean „and“ and not „and/or“

3a – does a phantom have to have all these properties to be considered a TMM, or could it have some of these? 3k – would ‘medium density’ be more universal?

:)

Spectral bandwidth: full width at half maximum of pulse energy spectrum, which may vary as a function of wavelength depending on the light source. Would suggest to use "Spectral linewidth" and "full width at half maximum of pulse optical spectrum". Pulse duration: The duration of a laser pulse, usually measured as the time interval between the half-power points on the leading and trailing edges of the pulse. Would suggest to add "trailing edges of the optical pulse".

Isn't LOD and LOQ defined as standard deviations above the mean of the background?

This document needs to elaborate on Note 1 under 1g. Why exactly is the use of the term fluence to describe MPE incorrect? An acknowledgement that the terms have historically been used interchangeably, possibly with a reason for the misinterpretation, would be helpful here, rather than simply stating this is incorrect. In section 3, some of the optical properties are missing symbolic definitions in parentheses. In 4q. SNR can be added in parentheses, as lesion SNR is referred to in 4s.

2(d) Need to be clarified that it is the distance between the centers of two adjacent elements in the array; 2(g) Must specify the electrical noise definition; 3(b) Need to specify that a natural logarithm is used in this case to differentiate from absorbance A (some use optical density term OD) where common logarithm is used. Need to specify the relationship between absorbance and MIUa as $MIUa = 2.3 \cdot A$; 4(g) "two dimensions" since it is a line object and only 2D response may be measured; 4(i) PhotoSound's TriTom and TomoWave's LOIS do not have scan plane and can produce only 3D images. The terminology should be extended to fully 3D systems; suggest to remove that portion "in the scan plane" and add "2D or 3D image area"; 4(l,m) Global and Local dynamic ranges should have consistent definitions in terms of ratio (min to max or other way around) and both use dB units or not

Submitted my suggested revisions to Bill and Sarah

The Section 1(g) Maximum Permissible Exposure and specifically the statement "the MPE for repetitive pulsing at 20 Hz for >10 seconds is actually half this limit" requires references. In fact, more biological research is needed on this question.

I would define the pitch as the distance between the centers of two adjoining elements.

Inconsistent use of capitalization at the beginning of term descriptions and periods at the end; 2.a.iii.: spacing error; 3.a.: Including acoustic nonlinearity (B/A) should be considered; 4.o: ambiguous wording, typos (space characters, double "="); 4.p: wrong use of commas; 4.s: spacing error

List of voters:

Ben Cox, Sarah Bohndiek, Lawrence Yip, David Crozier, James McLaughlan, lacey mcnelly, Ruiqing Ni, Marina Bakaric, Jo Brunner, Lena Maier-Hein, Stefan Morscher, M Suheshkumar Singh, François Varray, Janek Gröhl, Mantvydas Jasinskas, Yoko Okamura, Eno Hysi, Jesse Jokerst, Juan Aguirre, Moritz Wildgruber, Muyinatu Bell, Lina Hacker, William Vogt, Sergey Ermilov, Richard Bouchard, Junjie Yao, Paolo Armanetti, Srivalleesha Mallidi, Nina Reistad, Harish Poptani, Sarah Lee, Lihong Wang, Weylan Thompson, Jason Raymond, Jan Laufer, Melanie Schellenberg, Maura Dantuma, Efthymios Maneas, Elena V. Petrova, Hans-Peter Brecht, James Joseph, Jeff Bamber, , Hisham Assi, Mark Little, Srinath Rajagopal, Aoife Ivory, luca menichetti, Georg Watzl