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Ocean Science
Discussions

Interactive comment on "Biofouling protection for marine environmental sensors" *by* L. Delauney et al.

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Delauney and co-authors provided an important contribution to the Ocean Sensors 08 meeting that was relevant to most of the sensor developers present. In this manuscript they reinforce the message that protection against biofouling is not a solved problem, and that there is not a single, proven, all purpose solution to prevent biofouling at all locations at all times etc. Their review is thorough. It draws upon recent work in the science of biofilms, and also provides examples of results from experiments designed to test various anti-biofouling strategies, many by Delauney and his colleagues. This is a valuable contribution and should be required reading as a primer for those developing new sensors.

Below are minor comments and corrections, noting that R D Prien has already caught

many corrections needed.

Several places in-situ should be replaced with in situ.

P2994 line 15 "will give" to "gives"

P2995 line 21 "commonly used" – it is not clear to me that these techniques are commonly used over the whole range of instruments where they could be used. It would be helpful to clarify whether, when biofouling protection is used, these three are the most common techniques. This would help the reader reconcile this statement with the abstract where it says, "very few . . . are implemented".

P2995 line 28 "stand" to "withstand the"

P2996 line 11 is it right to state "fouling organisms" when the first stage is macromolecular?

P2997 line 4 "or may be missing", it would be clearer (if my interpretation is correct) to rephrase to "may not be required for subsequent stages to occur".

P2997 line 10 light is not mentioned, but it is clearly related to others (e.g. depth), even so, I think it should be listed.

P2998 line 9 "check" should be "checks"

P2998 line 20 "reason" probably better as "problem area"

P2999 line 20 "In case" to "In the case"

P3000 line 5 Whelan et al. should be Whelan and Regan

P3000 line 13 Might be helpful to remind the reader that this is the last stage of the five on biofouling – does this approach affect any earlier stages?

P3000 line 14 reference to Spears and Stone should be to Spears, Stone and Klein or Spears et al.

P3000 line 20 reference should be to Chambers et al.

P3000 line 25 “remove fouling” – can the stage of fouling removed be added (stages 1-5 on p2996?

P3001 line 12 “needs” should be “need”

P3003 line 5 “remain intact”. “intact” is rather to broad a word here for what must be far more complex requirements. It would be appropriate to expand using a few sentences on those requirements.

P3005 line 9 not clear that ‘s is needed after WQM

P3006 line 9 same question

P3006 line 11 Woerther et al. should be Woerther

P3006 line 15 “An other” to “Another”

P3007 line 5 “than laboratory one” to “that in the laboratory”

P3009 line 1 “irradiation” to “irradiation’s”

P3009 line 20 There is no justification for the “two years” given, please add one if there is

P3011 Holmström reference – I cannot see it called for.

P3012 there are two references to Nandakumar et al. in 2003 so they should be 2003a and 2003b.

P3012 Tsukamoto reference – I cannot see it called for.

P3012 I cannot see US Pat 6060046 called for

P3013 I cannot see the reference Woerther and Grouhel called for

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Interactive comment on Ocean Sci. Discuss., 6, 2993, 2009.