

Interactive comment on “Immobilized photocatalyst structure assuring optimal light distribution in a solar reactor” by A. S. El-Kalliny et al.

Anonymous Referee #1

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The paper shows that it is possible to use stainless steel meshes to support TiO₂ for a layered setup. The relation to "Drinking" water exits but is weak : the developed process is not really tested to cope with a polluted drinking water ressource. The structure of the paper is clear. Literature references appear up to date.

In the title, "optimal" should be replaced by "efficient" or "better". The authors don't prove in their paper that there can not be any better system. It is not even compared with a plain plate supporting the same amount of TiO₂, coated by the same technique.

The statement "This indicates that the O510-P25 and O500-P25 are the best sol gels for coating the woven meshes." is an overstatement as only these two have been

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tested.

EPD: is there a difference in coating according to the side which faces, or not, the opposite electrode ?

How much TiO_2 (g/m^2) effectively coated in each case ?

the section 4.3.2 could have been shorter, as some illustrations/statements are rather obvious : the system obeys strictly well known Beer-Lambert's law and the standard grid shadowing effect. e.g. : - fig 4.9, 4.10, 4.11. -"as the HA concentration decreased the percentage of the transmitted light through the HA layers increased" - fig 4.12 is just the plain application of Beer-Lambert's law that, as the absorbance of the water increases (by thickness or AH conc.), the penetration depth of light decreases, thus reducing the contribution of the deepest meshes.

only few writing error (e.g. 2.2.2 Sol gel dip coating method"e")

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