Energy & Environmental Science

CORRECTION

View Article Online
View Journal | View Issue

Cite this: *Energy Environ. Sci.*, 2018, **11**, 715

Correction: Interpretation and evolution of open-circuit voltage, recombination, ideality factor and subgap defect states during reversible light-soaking and irreversible degradation of perovskite solar cells

Wolfgang Tress,*[ab] Mozhgan Yavari,[b] Konrad Domanski,[a] Pankaj Yadav,[a] Bjoern Niesen,[c] Juan Pablo Correa Baena,[d] Anders Hagfeldt[b] and Michael Graetzel[a]

DOI: 10.1039/c8ee90011f

rsc.li/ees

Correction for 'Interpretation and evolution of open-circuit voltage, recombination, ideality factor and subgap defect states during reversible light-soaking and irreversible degradation of perovskite solar cells' by Wolfgang Tress *et al.*, *Energy Environ. Sci.*, 2018, **11**, 151–165.

When discussing Fig. 9 on page 11, the following (though careful) statement can be found regarding a deep trap state:

"The FTPS spectra in Fig. 9a show an additional feature located at 0.9 eV, whose values are close to the resolution limit of our measurement, but observed in all kinds of devices. This feature needs further investigation but could be a deep trap state which is responsible for the SRH recombination leading to $n_{ID} > 1$."

Having done further investigations, we are convinced that this feature at 0.9 eV does not result from the sample but is introduced as an artefact of our measurement setup. It turns out that it is a resonant feature appearing for some settings of the preamplifier, giving rise to a response at half of the energy (here around 0.9 eV) of the main signal detected between the absorption onset (1.6 eV) and the cut-off of our low-pass optical filter (*ca.* 1.8 eV). Therefore, further investigations on the nature of this feature are not required. Nevertheless, all the conclusions in this publication, including recombination through deep defect states, remain valid. Those states are commonly not visible in optical measurements due to their low absorption cross section and density, but can constitute efficient recombination centers. In addition, it is important to note that the FTPS peak observed at 1.35 eV was not affected by this artefact. Also the FTPS data presented in Fig. 9b, showing tail states remains valid.

We thank Terry Chien-Jen Yang for collaboration and troubleshooting of the FTPS setup.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

[a] *Laboratory for Photonics and Interfaces, Institute of Chemical Sciences, Engineering, École Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland. E-mail: wolfgang.tress@epfl.ch*
[b] *Laboratory of Photomolecular Science, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland*
[c] *Photovoltaics and Thin-Film Electronics Laboratory, Institute of Microengineering, École Polytechnique Fédérale de Lausanne, 2002 Neuchâtel, Switzerland*
[d] *Massachusetts Institute of Technology, Cambridge, MA 02139, USA*