Comparison of photocatalytic and transport properties of TiO2 and ZnO nanostructures for solar-driven water splitting

Original
Comparison of photocatalytic and transport properties of TiO2 and ZnO nanostructures for solar-driven water splitting / HERNANDEZ RIBULLEN, SIMELYS PRIS; HIDALGO DIAZ, DIANA CAROLINA; Sacco, Adriano; Chiodoni, Angelica; Lamberti, Andrea; Cauda, Valentina Alice; Tresso, Elena Maria; Saracco, Guido. - In: PHYSICAL CHEMISTRY CHEMICAL PHYSICS. - ISSN 1463-9076. - STAMPA. - 17;(2015), pp. 7775-7786. [10.1039/C4CP05857G]

Availability:
This version is available at: 11583/2590171 since: 2016-09-28T14:53:40Z

Publisher:
Royal Society of Chemistry

Published
DOI:10.1039/C4CP05857G

Terms of use:
This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)
Electronic Supporting Information

Comparison of photocatalytic and transport properties of TiO₂ and ZnO nanostructures for solar-driven water splitting

Simelys Hernández a,b,*, Diana Hidalgo a,b, Adriano Sacco a, Angelica Chiodoni a, Andrea Lamberti a,b, Valentina Cauda a, Elena Tresso a,b, Guido Saracco b

a Center for Space Human Robotics (IIT@POLITO), Istituto Italiano di Tecnologia, C.so Trento 21, 10129, Torino, Italy.
b Department of Applied Science and Technology (DISAT), Politecnico di Torino, C.so Duca degli Abruzzi 24, 10129, Torino, Italy.
* Corresponding author: e-mail: simelys.hernandez@polito.it, phone: (+39) 011.090.6664 / 3418.

Figure S1. Long-time I-t curves (12 h) at 0.3 V vs. Ag/AgCl under AM 1.5G simulated solar illumination (100 mW/cm²) of TiO₂ NTs and ZnO@TiO₂ photoelectrodes.
Figure S2. 45° tilted view FESEM images of the different nanostructures after PEC tests: a) TiO$_2$ NPs, b) TiO$_2$ NTs after additional 12h CA, c) ZnO NWs and d) ZnO@TiO$_2$ core shells after additional 12h CA. White circle put in evidence the early corrosion stage of the ZnO NWs.