

WORKSHOP
PROGNOZA PRODUCTIEI DE ENERGIE FOTOVOLTAICA – 2022

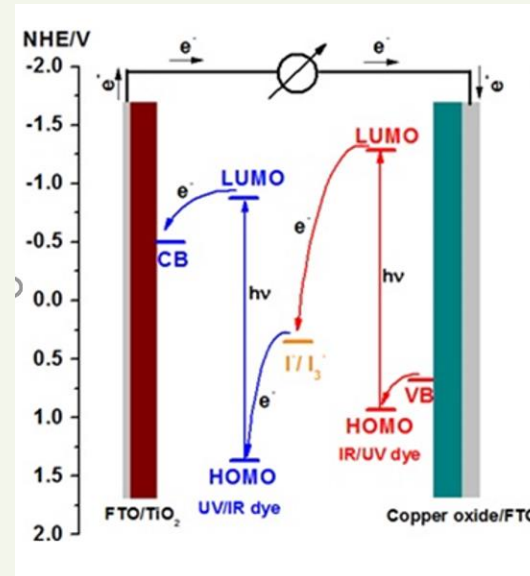
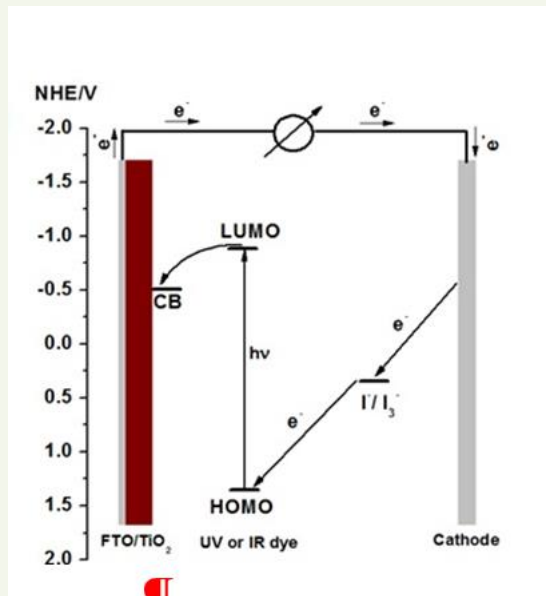
Celule solare sensibilizate cu colorant din perspectiva unei sere inteligente cu absorbție selectivă a radiației solare.

CS

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**Institutul Național de Cercetare - Dezvoltare
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Celule sensibilizate cu colorant (DSSCs)



Schema de functionare a unei celule solare sensibilizate cu colorant de tip n si tandem-DSSC

Article

Investigation of UV Dye-Sensitized Solar Cells Based on Water Electrolyte: A New Insight for Wavelength-Selective Greenhouse

Daiana Albulescu^{1,2}, Daniel Ursu¹, Lucian-Mircea Rusnac², Sabina Nitu², Marinela Miclau¹ and Melinda Vajda^{1,2,*}

Crystals **2022**, *12*, 98. <https://doi.org/10.3390/cryst12010098>

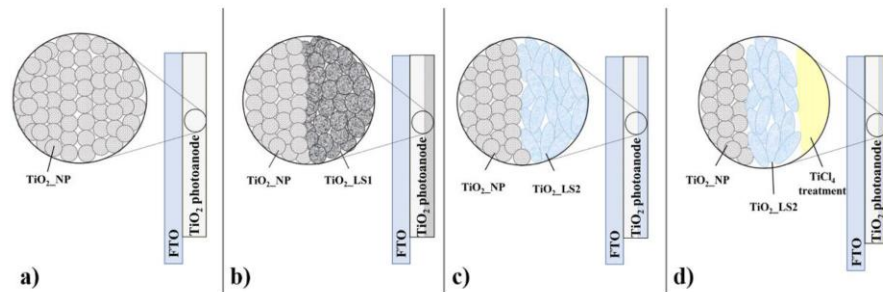
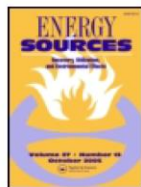


Figure 2. Schematic representation of the layer configuration in (a) PhA 1, (b) PhA 2, (c) PhA 3, and (d) PhA 4 photoanodes.



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Impact of the selectivity of titanium dioxide on photovoltaic performance of anthocyanin-sensitized solar cells

Daiana Albulescu, Daniel Ursu, Anamaria Dabici, Mihaela Birdeanu, Narcis Duteanu, Simona Popa, Marinela Miclau & Sabina Nitu

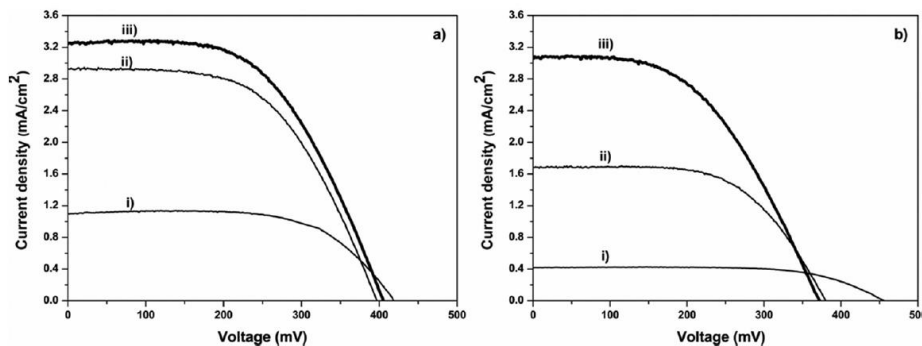


Figure 12. J-V curve of the n-type DSSC based on (a) dye_ethanol (i), dye_ethanol_HCl (ii), dye_ethanol_acetic (iii) sensitized TiO₂ films and (b) dye_acetone (i), dye_acetone_HCl (ii), dye_acetone_acetic (iii) sensitized TiO₂ films.

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Research Article

Investigation of silver nanowires in Zn₂SnO₄ spheres for enhanced dye-sensitized solar cells performance

Daniel Ursu^a, Radu Banica^a, Melinda Vajda^{a,b}, Corneliu Birtok Baneasa^b, Marinela Miclau^{a,*}

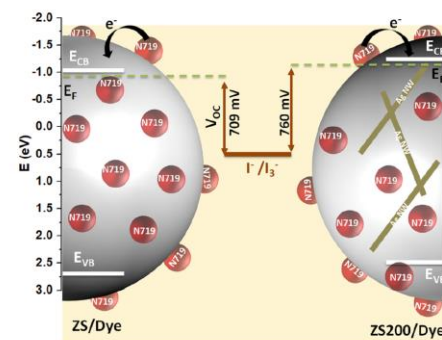


Fig. 8. Schematic description of AgNWs effect on tuning the E_f for ZS/Dye and ZS200/Dye photoanode with the E_f negative shift to the redox potential of the I_3^-/I_3^\bullet : E_{VB} -valence band maximum; E_{CB} -conduction band minimum; E_f -quasi Fermi energy; I_3^-/I_3^\bullet -redox potential of the electrolyte; V_{OC} -open circuit voltage.

Experimental investigation of hydrogen insertion in copper oxide on photovoltaic performance of *p*-type dye-sensitized solar cell

Melinda Vajda^{1,2} | Daniel Ursu¹ | Cristina Mosoarca¹ | Narcis Duteanu² | Marinela Miclau¹

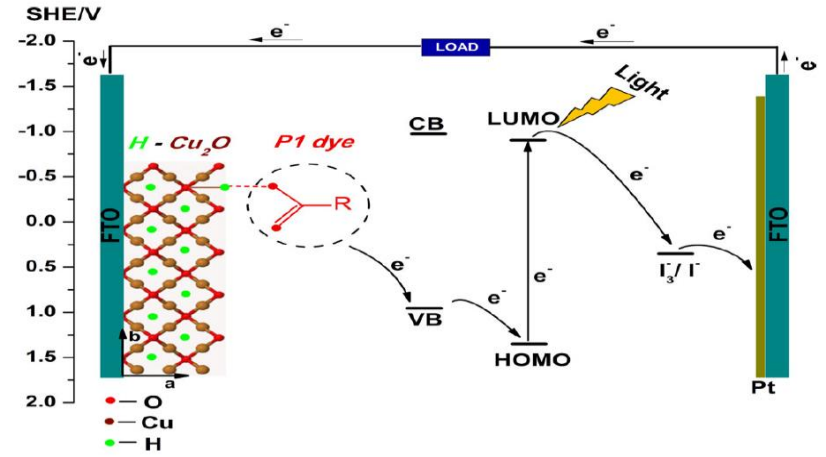


FIGURE 10 Schematic energy diagram of the DSSC composed of the H-Cu₂O photoelectrode on FTO, a platinum counter electrode, P1 dye and the electrolyte based on the I₃⁻/I⁻ redox couple [Colour figure can be viewed at wileyonlinelibrary.com]

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Investigation of the *p*-type dye-sensitized solar cell based on full Cu₂O electrodes

Daniel Ursu^a, Melinda Vajda^{a,b}, Marinela Miclau^{a,*}

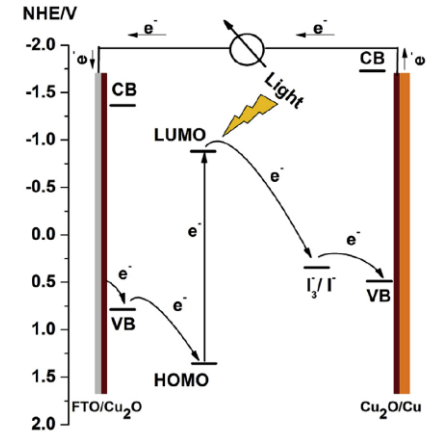


Fig. 8. Schematic energy diagram of the DSSC composed of the Cu₂O photoelectrode with porous structure on FTO, and Cu₂O/Cu plate as a counter electrode, P1 dye and the electrolyte based on the I₃⁻/I⁻ redox couple (HOMO: highest occupied molecular orbital and LUMO: lower unoccupied molecular orbital of the dye, NHE: normal hydrogen electrode).

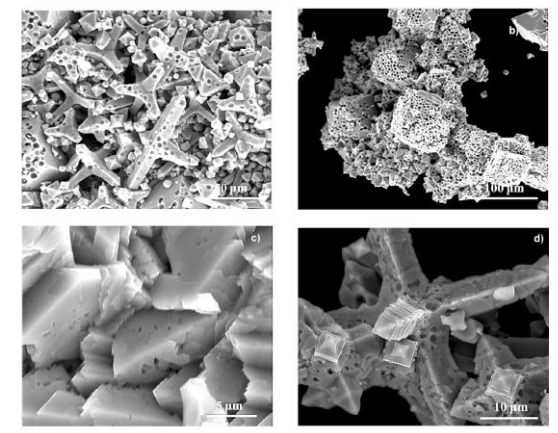


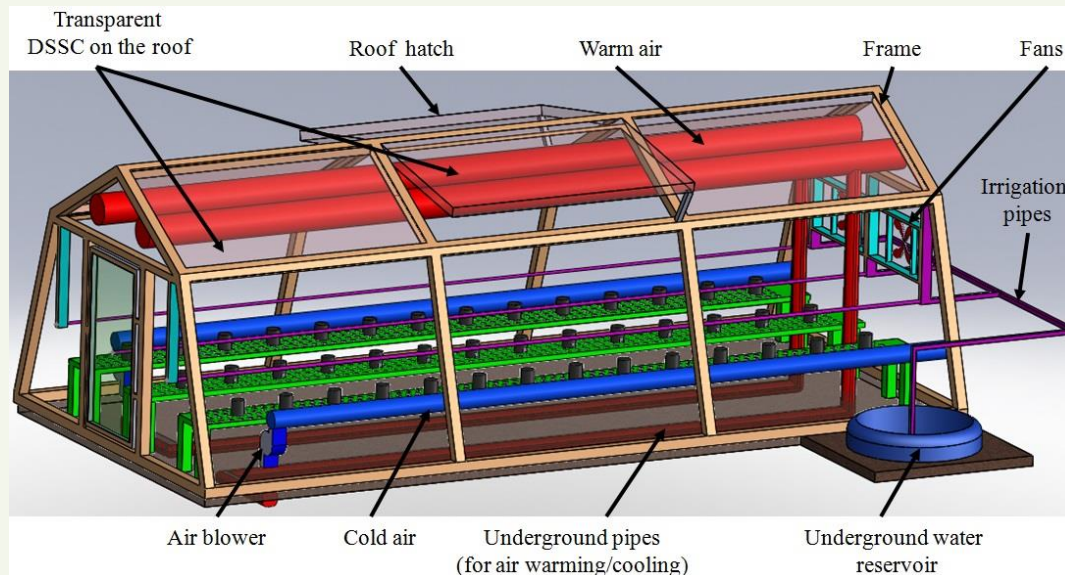
Fig. 2. SEM images of (a), (b) Cu₂O powder, (c) Cu₂O/Cu plate and (d) the pod shaped Cu₂O microcrystals with book-type morphology.

Seră inteligentă cu absorbție selectivă a radiației solare utilizând celule solare sensibilizate cu colorant (DSSCs), independentă și automatizată

PN-III-P2-2.1-PED-2019-2091

479PED

<http://getica.upt.ro>



The energy independent and combined fully automated greenhouse standalone prototype based on wavelength-selective solar cells (DSSC) [original work]

Vă mulțumesc