Indium free electrode, highly flexible, transparent and conductive for optoelectronic devices

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Mots-clés	ITO free electrode [15], Organic photovoltaic cells [16], Transparent conductive electrode [17], Transparent heat mirrors [18], Transparent heaters [19]
Résumé en anglais	WO3/Ag/WO3 multilayer structures were used as ITO free transparent electrode, transparent heat mirrors and transparent heaters. WO3/Ag/WO3 stacked layers were deposited by sequential sublimation, evaporation under vacuum. After optimization of Ag thickness (16 nm), they exhibit low sheet resistance (8 Ω/sq), high transmittance in the visible (TMax = 91.5%, averaged T400-700 = 80.6%) and high reflection in the near infrared and infrared regions. These values are optimal when it is used as transparent electrode but, as transparent heat mirrors 18 nm are better due to higher reflection in the NIR and IR. All these properties made possible to use them in different devices. When used as transparent anode in organic photovoltaic cells, they allow achieving performance similar to those obtained with ITO. Their transmission and reflection spectra show that they can also be employed as transparent heat mirrors. Similarly, studies dedicated to heating properties of the WO3/Ag/WO3 multilayer structures show that their performance are comparable to those obtained with another possible substituent to ITO, silver nanowires thin films.
URL de la notice	http://okina.univ-angers.fr/publications/ua19990 [20]
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[1] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38276
[2] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=3568
[3] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=21424
[4] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=21449
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[22] https://www.sciencedirect.com/science/article/abs/pii/S0042207X18301052?via%3Dihub