Organic solar cells using a multilayer structure
MoO3/Ag/MoO3 as anode

Submitted by Christian Bernède on Wed, 06/03/2015 - 20:41

MoO3/Ag/MoO3 structures have been grown and characterized. It is shown that the transmittance of the films increases when the silver thickness increase from 8 to 10 nm, whereas further increase induces transmittance decrease. The study of the variation of the conductivity vs. Ag thickness shows that the MoO3/Ag/MoO3 structures become highly conductive when the Ag thickness reaches 10 nm. Therefore, the optimum structure is obtained when the silver thickness is 10 nm. These MoO3/Ag/MoO3 structures have been used as anode in glass/anode/CuPc (35 nm)/C60(40 nm)/Alq3 (9 nm)/Al (120 nm) organic solar cells. These anodes permit achievable promising results, even if their efficiencies stay slightly smaller than that achieved with ITO based devices.