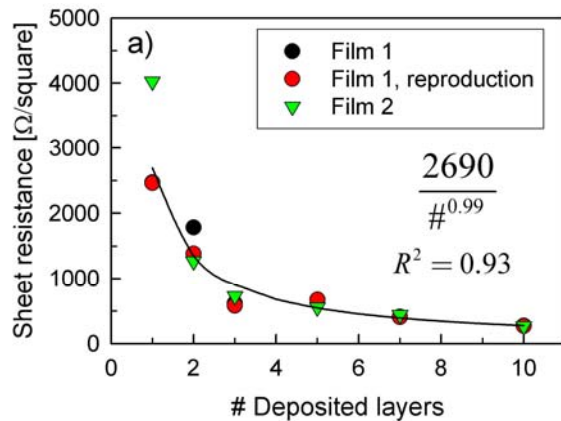
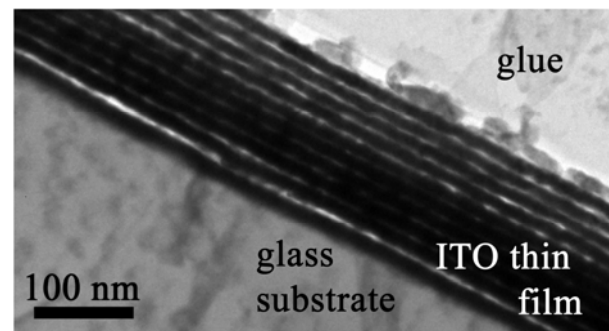
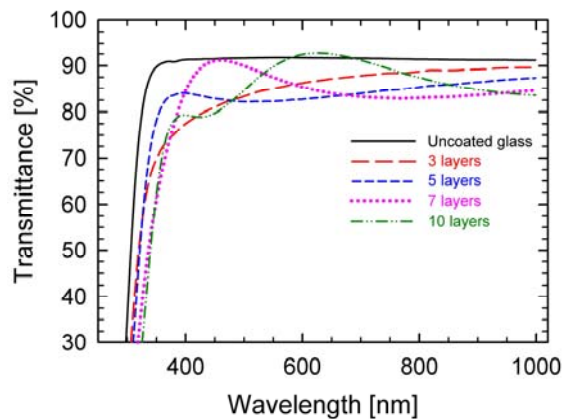


Transparent and conducting ITO thin films by an environmentally friendly spin coating technique



Transparent conducting oxides (TCOs) have a unique combination of properties and have found numerous technological applications. Indium tin oxide (ITO) is known as the state of the art TCO. By using the spin coater and the RTP furnace in NTNU NanoLab, ITO thin films have been deposited by a new water-based sol-gel process. The process is simple, inexpensive and environmentally friendly compared to other techniques and the prepared thin films demonstrate very good optical transparency and electrical conductivity.



Sheet resistance (top left), transmittance (bottom left) and TEM micrographs (right) of the deposited ITO films.

“Transparent and conducting ITO thin films by spin coating of an aqueous precursor solution”, T.O.L. Sunde, E. Garskaite, B. Otter, H.E. Fosshem, R. Sæterli, R. Holmestad, M.-A. Einarsrud and T. Grande, *J. Mater. Chem.*, 22 (2012) 15740.