

ELECTROCHROMIC $K_{0.27}MnO_2 \cdot 0.6H_2O$ THIN FILMS DEPOSITION ON GLASS SUBSTRATES USING DIP COATING METHOD

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Electrochromic thin films were deposited on electroconductive FTO - layered glass substrates using dip coating method [1]. Substrates were subsequently immersed in aqueous solutions of $MnCl_2$ and $KMnO_4$ in order to obtain thin films with different thicknesses. The obtained thin films were characterized using several methods. X-ray investigations were made to verify their structures, crystallinity and the chemical composition. The results showed that the chemical compound corresponds to $K_{0.27}MnO_2 \cdot 0.6H_2O$ [2,3]. Thin films electrochemical behaviour was investigated using Cyclic Voltammetry (CV). Examination of thin films electrochromic properties showed reversible redox transformation accompanied with colour change. Optical measurements were carried out with UV/VIS spectrophotometer in order to ascertain redox induced changes in the VIS transmittance spectra. Thin films thicknesses and surface morphology were determined using Profilometry and AFM technique.

Key words: thin films, $K_{0.27}MnO_2 \cdot 0.6H_2O$, electrochromism, dip coating method.

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