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A Complementary Type of Electrochromic Device by Radio Frequency Magnetron Sputtering System LUTFI OKSUZ, MELEK KIRISTI, FERHAT BOZDUMAN, AYSEGUL UYGUN OKSUZ, Suleyman Demirel University — Electrochromic (EC) devices can change their optical properties reversibly in the visible region (400-800 nm) upon charge insertion/extraction reactions according to the applied voltage. A complementary type of EC device composes of two electrochromic layers, which is separated by an ionic conduction layer (electrolyte). In this work, the EC device was fabricated using vanadium oxide (V2O5) and titanium doped tungsten oxide (WO3-TiO2) electrodes. The EC electrodes were deposited as thin film structures by a reactive RF magnetron sputtering system in a medium of gas mixture of argon and oxygen. surface morphology of the films was characterized by scanning electron microscopy (SEM) and atomic force microscopy (AFM). Electrochemical property and durability of the EC device was investigated by a potentiostat system. Optical measurement was examined under applied voltages of ± 2.5 V by a computer-controlled system, constantly.

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