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Plasma Assisted Growth of MoNi Thin Films and Its Physical Characterization ZOHREH GHORANNEVIS, ELAHEH AKBARNEJAD, MAHMOOD GHORANNEVISS, Department of Physics, Azad University, Iran — In this paper effects of a RF power and a deposition time on physical properties of Mo-Ni films were studied systematically. Deposition of Mo-Ni film is performed using RF magnetron sputtering system on soda lime glass. Argon gas is used to sputter the atoms of Mo and Ni from Mo-Ni target. Structural, morphological, optical and electrical properties of the films are studied using X-ray diffractometer (XRD), field emission scanning electron microscopy (FESEM), atomic force microscopy (AFM), spectrophotometer and four point probe, respectively. We found that by increasing the RF power, structure of the film can change from Mo to Mo-Ni, which is due to the higher sputtering yield of the Ni at higher RF powers. On the other hand, changing the deposition time also affected the physical properties of the Mo-Ni films. By increasing the deposition time crystalline structure significantly improved and the resistivity of the films decreased as a result of higher content of the Ni atoms amount.

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