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**Effect of Nitrogen on electrical properties of Titanium Aluminum Nitride** MOHAMMAD R. HANTEHZADEH, Islamic Azad University, Science and Research Branch, ALI MOHAMMAD RAZEGHI, Islamic Azad University, Science and Research Branch, MAHMMOD GHORANNEVISS, Islamic Azad University, Science and Research Branch — Titanium aluminum nitride thin film by DC magnetron sputtering was deposited on Si and glass substrate. Surface electrical conductivity variation of titanium aluminum nitride for different Nitrogen and Argon gas composition was investigated using four point probe measurements. The morphology of titanium aluminum nitride films was characterized using atomic force microscopy AFM. Experimental results show that increasing the nitrogen gas in the mixture makes the film less conductive. Formation of titanium aluminum nitride structures for different gas mixtures was investigated using XRD.

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