

Abstract Submitted
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Surface plasmon drag effect in noble metal thin films VIVEK KHICHAR, SURESH SHARMA, DOUGLAS ZINN, NADER HOZHABRI, UT Arlington — Nobel metals are useful to microelectronics because of their excellent electrical, optical and thermal properties. They are also important for surface plasmon resonance (SPR) sensors.....^[1] The surface plasmon drag effect originates from light absorption due to excitation of surface plasmon polaritons on metal thin films.....^[2]. Under the surface plasmon resonance condition, the component of the momentum of the incident p -polarized laser is transferred to the surface electrons in the film producing a drag voltage. Highly uniform noble metal films were deposited over Quartz substrates in *class-100 clean room*, characterized by Atomic Force Microscopy, and used for SPR measurements. Simultaneously, drag voltages were also measured by using Keithley Nano Voltmeter. We present plasmon drag voltages for noble metal thin films as functions of the angle of incidence, polarization, and intensity of $\lambda = 632$ nm incident laser beam. ¹S. C. Sharma, in *Advances in Sensors: Reviews Book Series, Vol 5, IFSA Publishing, Barcelona, Spain 2018* ²J. H. Strait et. al., Phys. Rev. Lett. **123** (5) (2019).

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