

**optical scattering and surface microroughness of ion beam
deposited Au and Pt thin films**

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ABSTRACT

Thin films of gold and platinum have been deposited onto super-polished fused silica substrates using thermal evaporation, ion assisted deposition (IAD) and ion assisted sputtering. The influence of ion beam flux, thin film material and deposition rate on the films microroughness have been investigated. Short range surface microroughness of the films has been examined using scanning tunneling microscopy STM and atomic force microscopy AFM. Long range surface microroughness has been characterized using an angle resolved optical scatterometer. Results indicate that ion beam deposited coatings have improved micro structure over thermally evaporated films,