

Abstract Submitted  
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**Angular distribution of sputtered platinum particles during argon plasma etching** PIERRE-MARC BERUBE, JOELLE MARGOT, Universite de Montreal, SEBASTIEN DELPRAT, MOHAMED CHAKER, INRS-EMT, LUC STAFFORD, Universite de Montreal — The angular distribution of platinum particles sputtered by an argon plasma is measured as a function of both gas pressure and ion energy in an inductively couple plasma reactor. For this purpose, photoresist is first deposited on the platinum sample. An “inverse T” profile is further patterned into the resist to enable platinum etching by the plasma followed by redeposition of the sputtered particles on the T-shaped cavity wall. The angular distribution can be determined by measuring the thickness of redeposited platinum with position. At low plasma pressure (0.5 mTorr), the observed angular distribution is in excellent agreement with the distribution calculated by the low-energy regime of the Sigmund theory for ion sputtering. However, at higher pressure (30 mTorr) the spatial dependence of the redeposited platinum thickness can only be explained by considering the interactions between plasma and sputtered species.

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