

Abstract Submitted
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Practical challenges for the integration and application of plasmas in atomic layer deposition systems J. R. GAINES, Kurt J. Lesker Company — Atomic Layer Deposition (ALD) is the fastest growing thin film deposition technology, for 2017 and for foreseeable future. Increased complexity impressed on the semiconductor industry in the transition to 3 dimensional transistor designs and the traditional pressures on device density make ALD a natural tool for current and future challenges. The design shift to 3D structures substantially complicates the development of robust ALD processes for certain materials. The chemical mechanisms at the heart of ALD in some cases require additional energy beyond what can be promoted through high temperature reactions. Certainly, for certain iconic materials such as platinum, plasmas must be integrated into the ALD system to achieve high quality results. In this presentation specific issues related to the integration and application of plasma technology to the chemical deposition of molecules on solid substrates will be reviewed.

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