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Plasma Enhanced Atomic Layer Etch/Atomic Layer Deposition

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Novel thin films, thin film laminates and alloys promising unprecedented performance are growing the need for the ultimate process solution: deposition and etch with atomic layer precision. Atomic Layer Deposition has been developed for a while and is a critical element in manufacturing. Atomic layer etching is a promising path to answer the processing demands of new devices at the Angstrom scale. Self-limiting reactions, discrete reaction and activation steps are some of the pathways being pursued for precise material removal control and maintaining the original film performance. Both etch and deposition processes share similar approaches and understanding of the reaction chemistry paths is essential. A look at thermal ALE/ALD processes may enable a deeper understanding of processes in plasma based approaches. In this workshop we seek to explore how much of these complex processes we understand enough so they can be modelled/simulated and eventually used for process optimization.