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Einladung zum Vortrag

Ultra-Precision Engineering in Lithographic Exposure Equipment for the Semiconductor Industry

von

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ABSTRACT

The developments in lithographic tools for the production of Integrated Circuits are ruled by the "Law of Moore": *A doubling of the amount of active elements in about every two years*. The corresponding shift in size of the smallest detail entails several technological breakthroughs. Core in these developments is the exposure system, the wafer scanner, that defines these details. This paper deals with those aspects of the applied positioning systems that are required to extend the law of Moore. At accuracy levels in the sub-nanometre range, with motion velocities in several metres per second, the design of these systems is not trivial. Feedback control, to cancel disturbances, is hardly effective, because of the need to limit the settle time. This implies the use of high precision feedforward control with an almost ideally predictable motion system behaviour and a strict limitation of random disturbing events. The mastering of this dynamic behaviour, including material drift on an atomic scale, is decisive for the future success of these machines.

WEITERE INFORMATIONEN

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