TECHNISCHE
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IAP-SEMINAR

EINLADUNG

Termin:	**Dienstag, 17.1.2012 um 16:00 Uhr**
Ort:	**Technische Universität Wien,** **Institut für Angewandte Physik,** Seminarraum 134A, Turm B (gelbe Leitfarbe), 5. OG 1040 Wien, Wiedner Hauptstraße 8-10
Vortragender:	**Dr. Werner Smekal** Ion Micro Systems, Wien
Thema:	**eMET POC: A novel Electron Multi-beam Mask Exposure Tool for the Semiconductor Industry**

Kurzfassung

The Moore's law is valid since the 1960s for the semi-conductor industry and determines the roadmap of IC design and production. 2012 some companies already achieved the 22nm node and there is a clear plan to reach the 11nm node 2015 with the tools already available for the production process like immersion lithography (using 193nm light).

From 2016 on EUV-lithography (extreme ultraviolet) should be used to produce the next nodes, but development of this lithography process is slow and there is already doubt that this technology will be ready when it is needed. Therefore the semi-conductor industry already has alternative plans using existing tools. The mask writers based on electron beam lithography are a bottle neck though, since the smaller the pattern become on the mask, the time to write a mask becomes a serious issue. Multi-beam writing becomes therefore mandatory for future technology nodes in order to stay within reasonable realization times for leading-edge complex masks and templates. IMS Nanofabrication has developed multi-beam projection techniques implementing a programmable aperture plate system (APS) and charged-particle projection optics with 200x reduction. The technology of the eMET POC (proof of concept) tool, which is able to write 30nm-patterns with 256k beams, is presented in this talk.

Alle interessierten Kolleginnen und Kollegen sind zu diesem Seminar
(45 min mit anschließender gemeinsamer Diskussion) herzlich eingeladen.

W. Werner e.h.
(Seminar-Chairperson)

H. Störi e.h.
(LVA-Leiter)