TECHNOLOGY OPPORTUNITY SHEET

The University of Houston is actively seeking companies interested in commercializing a lithographic method using high energy atomic beam

DISCLOSURE ID: 2220 **High Energy Atomic Beam Lithography**

CATEGORY: MANUFACTURING and NANOTECHNOLOGY

DESCRIPTION

A method is disclosed for eliminating the blur and pattern placement errors caused by the charging of mask and substrate in ion beam lithography. The concept is to use high energy neutral particles instead of ion for proximity printing. While it is evident that neutral particles will not be deflected by charge on the mask and wafer, it is not obvious that a suitably high quality beam of high energy atoms can be formed at all. With this new method, it is in fact possible to form such a beam which leads to a better resolution than that obtained with ion beam lithography.

COMPETITIVE ADVANTAGE

- Eliminates charge interaction at the mask or on the resist, leading to high resolution writing
- Eliminates ragged edge and asymmetry even with large mask-to-wafer gaps, leading to excellent image quality
- Makes proximity lithography an attractive technique for the patterning of large-area nanostructures by avoiding the use of charged particles

MARKET INTEREST

- Nanolithography
- MEMs and nanodevices

PATENT STATUS

- PCT pending

AVAILABILITY

- Available for exclusive or non-exclusive licensing

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