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TECHNOLOGY OPPORTUNITY SHEET

The University of Houston is actively seeking companies interested in commercializing a process that increases lithographic masks lifetime

DISCLOSURE ID: 9712 Method of depositing a carbon film on a membrane

CATEGORY: MANUFACTURING

DESCRIPTION

A method for depositing carbon films on membranes used in masks for X-ray or corpuscular projection (electrons, ions, atoms, and ionic or neutral molecules) lithography is proposed in which sputtering is used and the membranes serving as sputter substrates are positioned in the off-axis configuration relative to the sputter targets. The carbon films thus produced have a compressive stress of the order of 10 MPa or below. For modifying the properties of carbon films after deposition, such as the deactivation of chemically reactive sites or stabilization of stress, ion bombardment with helium ions can be employed. This method anticipates changes in the film due to initial irradiation and serves to reach a plateau in which the stress varies only a little, i.e. within about 1MPa or less.

COMPETITIVE ADVANTAGE

- Preventing masks from swelling and compaction, increasing masks life time

MARKET INTEREST

- Lithography

PATENT STATUS

- [US Patent 6,063,246](#)

AVAILABILITY

- Available for exclusive or non-exclusive licensing

OFFICE OF INTELLECTUAL PROPERTY MANAGEMENT

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