

**Application of rectilinear profile mask for deposition of
laterally graded multilayer mirrors.**

**Design of multilayer mirrors for testing of EUV radiation
sources.**

I. V. Kozhevnikov

Crystallography Institute, Moscow, Russia

New approach to deposition of a multilayer structure onto flat or figured substrate with period varying in a radial direction is analyzed theoretically. The key feature of the approach consists in the use of rectilinear profile mask moving along a straight line with a variable velocity. Solution of the inverse problem, which consists in finding of the velocity variation providing the necessary film thickness distribution, is discussed. Different factors influencing an accuracy of deposition are analyzed.

Results of theoretical analysis of narrowband multilayer mirrors is discussed as applied to the problem of testing of radiation sources for EUV lithography. The problem consists in designing of a multilayer mirror providing the same reflectivity profile as an optical system consisting of 11 periodic Mo/Si mirrors.