

ABSTRACT OF THE DISCLOSURE
EXPOSURE APPARATUS, EXPOSURE METHOD, AND METHOD FOR
MANUFACTURING SEMICONDUCTOR APPARATUS

An exposure apparatus includes an illumination optical system for illuminating an original including a periodic pattern, a projection optical system for forming an image of the original on a substrate, a controller configured to cause light from the illumination optical system to be obliquely incident on the original such that a light intensity distribution which is line-symmetric with respect to a line, passing through an origin of a pupil region of the projection optical system and orthogonal to a periodic direction of the periodic pattern, is formed in the pupil region by diffracted light beams including diffracted light of not lower than 2nd-order from the periodic pattern, and to control exposure of the substrate such that each point in a shot region of the substrate is exposed in not less than two focus states.

(Figure 4B)