



162162



G00002

ABSTRACT

When an illumination light beam EL is radiated by an illumination system (12, M, 44) at a predetermined angle of incidence θ with respect to a pattern plane of a mask R, the illumination light beam EL is reflected by the pattern plane. The reflected light beam is projected by a projection optical system PO onto a substrate W, and a pattern in an area on the mask R illuminated with the illumination light beam is transferred onto the substrate W. During the transfer, a stage control system is operated to synchronously move a mask stage RST and a substrate stage WST in the Y direction, while adjusting a relative position of the mask R in the Z direction with respect to the projection optical system PO, on the basis of predetermined adjusting position information. Accordingly, although the mask side of the projection optical system PO is non-telecentric, it is possible to effectively suppress the occurrence of the magnification error and the positional discrepancy in a transferred image of the pattern on the substrate W due to Z displacement of the mask. As a result, the overlay accuracy is improved. The present invention is especially preferred to perform exposure at high resolution with an illumination light beam in the soft X-ray region.