

ABSTRACT OF THE DISCLOSURE

OPTICAL ARRANGEMENT OF AUTOFOCUS ELEMENTS FOR USE WITH IMMERSION LITHOGRAPHY

An autofocus unit is provided to an immersion lithography apparatus for having a fluid over a target surface of a workpiece and an image pattern projected on
5 this target surface through the fluid. The autofocus unit has an optical element such as a projection lens disposed opposite and above the target surface. An autofocus light source is arranged to project a light beam obliquely at a specified angle such that this light beam passes through the fluid and is reflected by the target surface of the
workpiece at a specified reflection position which is below the optical element. A
10 receiver receives and analyzes the reflected light. Correction lenses may be disposed on the optical path of the light beam for correcting propagation of the light beam.

(Figure 1)