IMAGING OPTICAL SYSTEM

Abstract

A projection exposure installation for microlithography has an imaging optical system (6) with a plurality of mirrors (M1 to M6). The mirrors image an object field in an object plane (4) in an image field in an image plane (8). One of the mirrors (M6) has a through-hole (23) for imaging light (3) to pass through. A reflection surface of at least one mirror (M1 to M6) is in the form of a free-form surface which cannot be described by a rotationally symmetrical function. In addition, the projection exposure installation has a light source for the illumination and imaging light (3) and a lens system for directing the illumination light (3) to the object field of the imaging optical system (6). By providing a reticle and a wafer, and by projecting a structure on the reticle onto a light-sensitive layer of the wafer and by producing a microstructure on the wafer, a microstructured component is produced with the projection exposure installation. A corresponding imaging optical system, in which the object and image planes are interchanged, can be used as a microscope lens. This produces an imaging optical system with improved imaging properties and/or simpler producibility of the mirrors at predetermined dimensions.

- Fig. 2 -