

MICROSCOPE OBJECTIVE LENS FOR DUV-BLUE SPECTRAL RANGE, INSPECTION SYSTEM AND METHOD

Abstract

A microscope objective lens for DUV-blue spectral range comprises a first lens group, a second catadioptric lens group, and a third catadioptric lens group. First lens group has a negative first spherical aberration, a positive first coma aberration, a negative first axial chromatic aberration, and a negative first lateral chromatic aberration. Second catadioptric lens group has a negative second spherical aberration, a positive second coma aberration, a negative second axial chromatic aberration, and a negative second lateral chromatic aberration. Third catadioptric lens group has a third spherical aberration, a third coma aberration, a third axial chromatic aberration, and a third lateral chromatic aberration. A first focal length f_{S1} of first lens group, a second focal length f_{S2} of second catadioptric lens group, a third focal length f_{S3} of third catadioptric lens group, and a total focal length f_{E1} of microscopic objective lens satisfies following formulas: $|f_{S1}/f_{S3}| < 1.5$, $|f_{S1}/f_{S2}| < 1.5$, and $1 < |f_{S1}/f_{E1}| < 3$.

(FIG. 1)