



ABSTRACT OF THE DISCLOSURE

A projection exposure apparatus including a projection optical system for projecting a pattern of a reticle onto a substrate, an optical characteristic
5 detecting device for detecting a change in optical characteristic of the projection optical system, which change may results from the projection of the reticle pattern onto the substrate through the projection optical system, and a light detecting device for
10 detecting at least one of (i) an intensity distribution of light from the reticle pattern, at a position adjacent to the reticle or adjacent to an imaging plane on which the reticle is to be imaged, and (ii) an intensity distribution of the light from
15 the reticle pattern, at a position adjacent to a pupil plane of the projection optical system, wherein the optical characteristic detecting device is arranged to detect the amount of change in optical characteristic in accordance with the intensity distribution detected
20 by the light detecting device.