EXPOSURE APPARATUS, EXPOSURE METHOD, AND METHOD FOR MANUFACTURING SEMICONDUCTOR APPARATUS

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to an exposure apparatus, an exposure method, and a method for manufacturing a semiconductor apparatus.

Description of the Related Art

[0002] As a method of increasing the depth of focus of an exposure apparatus, a FLEX (Focus Latitude Enhancement Exposure) method is known. The FLEX method can be defined as a method of exposing a substrate in a plurality of defocus states, or a method of exposing a substrate such that the light intensities formed by an original in the vicinity of the image plane of a projection optical system overlap in the optical axis direction. Japanese Patent Laid-Open No. 7-153658 describes an exposure method for satisfactorily resolving an isolated pattern such as a hole pattern or a fine pattern. In this exposure method, multistage exposure is performed in which a substrate is exposed at the in-focus point and each of a plurality of defocus points. For exposure at the in-focus point, the value of the coherency factor (σ) is set smaller than for exposure at each of the plurality of defocus points.

SUMMARY OF THE INVENTION

[0003] The present invention provides a technique advantageous in improving the depth of focus of an exposure apparatus.

[0004] One of aspects of the present invention provides an exposure apparatus