WHAT IS CLAIMED IS:

1. An overlay measurement device for measuring an interlayer overlay error of a sample on which overlay marks, which include a first overlay mark and a second overlay mark respectively formed on different layers, are formed, the overlay measurement device comprising:

an illumination optical system configured to illuminate the overlay marks on the sample;

a main beam splitter configured to split light reflecting off the overlay marks into a first beam and a second beam;

a first detector configured to receive the first beam and generate a first overlay mark image in which the first overlay mark is in focus;

a second detector configured to receive the second beam and generate a second overlay mark image in which the second overlay mark is in focus;

a first imaging optical system configured to image the first beam on the first detector;

a second imaging optical system configured to image the second beam on the second detector; and

a height difference detection optical system configured to detect a height difference (Δh) between the first overlay mark and the second overlay mark,

wherein the second imaging optical system is a telecentric imaging optical system including an optical path adjuster configured to adjust a length of an optical path of the second beam on the basis of the height difference; and a telecentric lens placed between the main beam splitter and the second detector, and configured to image the second beam on the second detector, and

wherein the illumination optical system comprises a wavelength-tunable fiber optic light source.

2. The overlay measurement device of claim 1, wherein the optical path adjuster comprises:

one or more mirrors placed between the main beam splitter and the second detector, and configured to reflect the second beam toward the second detector;

a mirror stage configured to adjust the length of the optical path of the second beam by linearly moving at least one of the one or more mirrors; and

a controller configured to control the mirror stage on the basis of the height difference.

3. The overlay measurement device of claim 2, wherein the controller is configured to control the mirror stage such that the optical path of the second beam is extended in proportion toa product of the height difference and a magnification of the second overlay mark image and such that the extended optical path of the second beam is longer than an optical path of the first beam.

4. The overlay measurement device of claim 1, wherein the sample is a semiconductor wafer.

5. The overlay measurement device of claim 1, wherein the first variable filter is configured to adjust the wavelength band of the first illumination for detection of the first overlay mark on a first layer of the different layers by the first detector.

6. The overlay measurement device of claim 1, wherein the second variable filter is configured to adjust the wavelength band of the second illumination for detection of the second overlay mark on a second layer of the different layers by the second detector.

7. The overlay measurement device of claim 1, wherein the wavelength band of the first illumination and the wavelength band of the second illumination are different from each other.

8. The overlay measurement device of claim 1, wherein the wavelength band of the first illumination and the wavelength band of the second illumination are the same.

9. The overlay measurement device of claim 1, further comprising a detector controller configured to synchronize the first detector and the second detector.

10. The overlay measurement device of claim 9, wherein the detector controller generates a software synchronization signal and transmits the synchronization signal to the first detector and the second detector.

11. The overlay measurement device of claim 1, further comprising a focus actuator to adjust a position of the second detector.

12. The overlay measurement device of claim 11, wherein:

the second imaging optical system includes a zoom lens, which is positioned between the main beam splitter and the focus actuator; and

wherein the adjustable second detector and the zoom lens are configured to image the second beam on the second detector.