

Measuring form changes of a substrate

Abstract

This invention relates to a device for determining changes in the shape of a substrate (16) parallel to its substrate surface (16o) with the following features:

- at least one detection apparatus (2) for detecting images of structures (14, 15, 20) which are located on the substrate surface (16o),
- optics consisting of at least two optics apparatus (4, 7, 21) with at least two different beam paths (10, 11, 12, 13, 26, 27) for imaging of the structures (14, 15, 20) on the detection apparatus,

the device being able to determine distances ($dx_1, dy_1, dx_2, dy_2, dx_n, dy_n$) of images (14', 15', 20') of the structures (14, 15, 20) and/or changes of the distances ($dx_1, dy_1, dx_2, dy_2, dx_n, dy_n$).

Furthermore this invention relates to a method for determining changes in the shape of a substrate (16) parallel to its substrate surface (16o) with the following steps, in particular the following progression:

- alignment of optics consisting of at least two optics apparatus (4, 7, 21) with at least two different beam paths (10, 11, 12, 13, 26, 27) for imaging of structures (14, 15, 20) on the detection apparatus (2),
- detection of images (14', 15', 20') of the structures (14, 15, 20) with the detection apparatus (2),
- treatment of the substrate (16),
- detection of images (14', 15', 20') of the structures (14, 15, 20) with the detection apparatus (2), and
- determination of distances ($dx_1, dy_1, dx_2, dy_2, dx_n, dy_n$) of images (14', 15', 20') and/or changes of the distances ($dx_1, dy_1, dx_2, dy_2, dx_n, dy_n$) before and after treatment of the substrate.

Figure 2a