measurement window for electron beam lens **40** could be rapidly ascertained. The charging caused by the electron beam could thus be even further minimized by the fact that a large portion of the measurement operation (e.g. focusing, fine adjustment of the measurement field, etc.) can be performed with lens **10**, i.e. optically.

[**0034**] Here again, as in the case of the AFM, the throughput advantage is a benefit. In particular, a further decrease in measurement errors can be achieved by multiple scanning of substrate **9** and by statistical methods in the analysis of the scans.

[**0035**] The present invention has been described with reference to exemplary embodiments. It is apparent to any person skilled in this art, however, that changes and modifications can be made without thereby leaving the range of protection of the Claims below.

1. A measuring instrument (**100**) for measuring features (**19**) on a substrate (**9**), wherein

a)a support element (**15**) is provided opposite the substrate; and

b)a nonoptical measurement device (**23**) is mounted on the support element (**15**),

c)normal air pressure conditions existing between the nonoptical measurement device (**23**) and the substrate (**9**).

2. The measuring instrument as defined in claim 1, wherein the nonoptical measurement device (**23**) is an AFM (**24**).

3. The measuring instrument as defined in claim 1, wherein the nonoptical measurement device comprises an electron beam lens (**24**).

4. The measuring instrument as defined in claim 2, wherein there is provided, in addition to the nonoptical measurement device (**23**), an optical lens (**10**) that is used for rapid location of features (**19**) on the substrate (**9**).

5. The measuring instrument as defined in claim 3, wherein there is provided, in addition to the nonoptical measurement device (**23**), an optical lens (**10**) that is used for rapid location of features (**19**) on the substrate (**9**).

6. The measuring instrument as defined in claim 4, wherein the nonoptical measurement device (**23**) and the lens (**10**) are mounted next to one another on the support element (**15**) and are thereby rigidly joined to one another.

7. The measuring instrument as defined in claim 1, wherein a displaceable measurement table (**4**) is provided, onto which the substrates (**9**) to be measured can be placed; and an interferometer (**26**) which determines the reference position of the measurement table (**4**) is provided.

8. The measuring instrument as defined in claim 5, wherein the interferometer (**26**) also determines and monitors the position of the support element (**15**).

9. The measuring instrument as defined in claim 5, wherein there is mounted on the support element (**15**) a focus position transducer (**22**) that indicates the focus position of the lens (**10**) relative to the substrate (**9**) and focuses the lens (**10**) onto the substrate (**9**).

10. A method for measuring features (**19**) on a substrate (**9**), characterized by the following steps:

a)moving to the feature (**19**) that is to be measured, under ambient air pressure;

b)ascertaining a coarse position of the feature (**19**) on the substrate;

c)measuring the feature (**19**) that was moved to, using a nonoptical measurement device (**23**) under ambient air pressure; and

d)determining the exact position and extent of the feature (**19**).

11. The method as defined in claim 9, characterized by the following steps:

a)positioning the substrate (**9**) on a measurement table (**4**) that is movable in the X and Y direction; and

b)ascertaining the exact position of the structure (**9**) from the position, ascertained by the interferometer, of the measurement table (**4**) and the position of the nonoptical measurement device (**23**).

12. The method as defined in claim 10, wherein the feature to be measured is moved to by way of a lens (**10**).

13. The method as defined in claim 9, wherein the nonoptical measurement device (**23**) is configured as an AFM (**24**).

14. The method as defined in claim 9, wherein the nonoptical measurement device (**23**) is configured as an electron beam lens (**40**).

15. The method as defined in claim 9, wherein a support element (**15**) is provided opposite the substrate (**9**); and the nonoptical measurement device (**23**) and a lens (**10**) are mounted next to one another on the support element (**15**) in such a way that the nonoptical measurement device (**23**) and the lens (**10**) are rigidly joined to one another.

16. The method as defined in claim 14, wherein there is mounted on the support element (**15**) a focus position transducer (**22**) that establishes the focus position of the lens (**10**) with respect to the substrate (**9**).

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