

Device and method for measuring a substrate

Abstract

The invention relates to a method for measuring a multilayered substrate (1, 1', 1''), particularly with at least one structure (7, 7', 7'', 7''', 7^{IV}, 7^V) with critical dimensions, particularly with a surface structure (7, 7', 7'', 7''', 7^{IV}, 7^V) with critical dimensions, characterized in that the method has at least the following steps, particularly the following procedure:

- producing (110) the substrate (1, 1', 1'') with a plurality of layers (2, 3, 4, 5, 6, 6', 6''), particularly with a structure (7, 7', 7'', 7''', 7^{IV}, 7^V), particularly with a structure (7, 7', 7'', 7''', 7^{IV}, 7^V) on a surface (60, 6'o, 6''o) of an uppermost layer (6, 6', 6''), wherein the dimensions of the layers and in particular the structures are known,
- measuring (120) the substrate (1, 1', 1''), and in particular the structure (7, 7', 7'', 7''', 7^{IV}, 7^V), using at least one measuring technology,
- creating (130) a simulation of the substrate using the measurement results from the measurement of the substrate (1, 1', 1''),
- comparing (140) the measurement results with simulation results from the simulation of the substrate (1, 1', 1''),
- optimizing the simulation (130) and renewed creation (130) of a simulation of the substrate using the measurement results from the measurement of the substrate (1, 1', 1''), in the event that there is a deviation of the measurement results from the simulation results, or calculating (150) parameters of further substrates, in the event that the measurement results correspond to the simulation results.

Fig. 1a