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(54) Title: METHOD AND APPARATUS FOR OPTICALLY MEASURING BY INTERFEROMETRY THE THICKNESS OF AN OBJECT

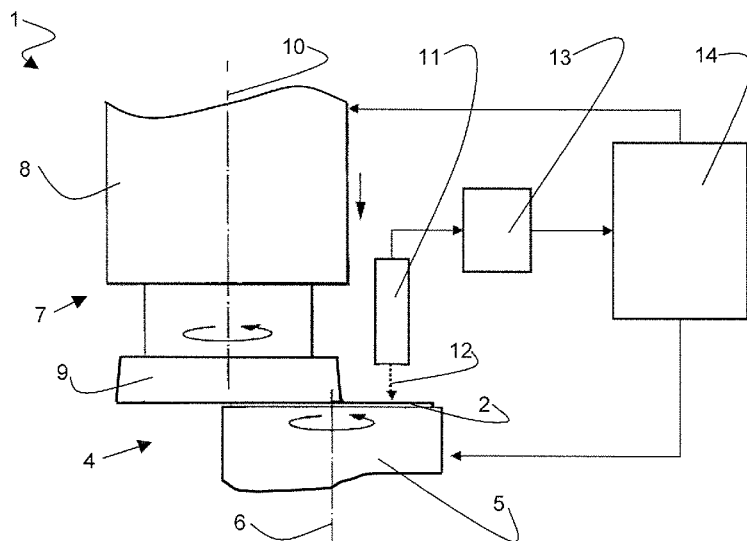


Fig. 1

(57) Abstract: Methods and apparatuses are used for optically measuring by interferometry the thickness (T) of an object (2) such as a slice of semiconductor material. Readings of the object thickness by optical interferometry are carried out, rough thickness values (RTW) are obtained and frequencies, indicating how often the rough thickness values occur, are evaluated. A limited set of adjacent rough thickness values whose frequency integration or summation represents an absolute maximum is identified, and the actual value of the thickness of the object is determined as a function of the rough thickness values belonging to said limited set of values. The rough thickness values can be divided up into classes (C) with corresponding frequencies (F), and in this case, a preponderant group (G_{max}) of thickness classes is identified as the above-mentioned limited set of adjacent rough thickness. A lower reject threshold (R_{min}) and a higher reject threshold (R_{max}) that define a searching interval including the actual value of the object thickness are also determined, and all the rough thickness values that are outside the searching interval are eliminated from further processing. When measuring the object during a surface machining, the reject thresholds are progressively and automatically updated as a function of a gradual thickness reduction that the object undergoes.



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