

## METROLOGY DEVICE AND METROLOGY METHOD

### ABSTRACT

The present invention relates to a metrology device for inspecting a substrate, particularly a substrate stack (14), with the following features:

- sound application means for applying sound waves (19) to a first substrate stack surface of the substrate, particularly the substrate stack (14),
- an optical system having
  - a) a source for outputting electromagnetic radiation, which are split into at least one first beam path and one second beam path,
  - b) means for loading a substrate stack measuring surface (14m) of the substrate, particularly the substrate stack, (14) with the first beam path,
  - c) interference means for forming an interference radiation made up of the first and second beam paths and
  - d) a detector (5) for detecting the interference radiation,
- analysing means for analysing the interference radiation detected at the detector (5).

Furthermore, the present invention relates to a metrology method for inspecting a bonded substrate, particularly a substrate stack, (14) with the following steps, particularly the following procedure:

- applying sound waves to a first substrate stack surface () of the substrate, particularly the substrate stack, (14),
- applying a first beam path of electromagnetic radiation output from a source to a substrate stack measuring surface (14m) of the substrate applied with sound waves, particularly the substrate stack (14),
- forming interference radiation made up of the first beam path and a second beam path of the electromagnetic radiation,
- detecting the interference radiation at a detector (5),
- analysing the interference radiation detected at the detector.

Figure 3