CLAIMS

1. Device for carrying out measurements of shape on a first surface (13) of a wafer (12) relative to structures (14) present beneath said first surface (13), characterized in that it comprises:

- profilometry means (10) with a full-field interferometer (20) arranged in order to carry out measurements of shape on said first surface (13) of the wafer (12) according to at least one measurement field;

- imaging means (11) facing said profilometry means (10) and arranged in order to acquire a reference image of said structures (14) on or through a second surface of the wafer (12) opposite to the first surface (13) according to at least one imaging field;

said profilometry means (10) and said imaging means (11) being arranged so that the measurement and imaging fields are referenced in position within a common frame of reference (15).

2. The device according to claim 1, comprising imaging means (11) capable of producing images at wavelengths in the infrared.

3. The device according to one of claims 1 or 2, comprising a full-field interferometer (20) of one of the following types: Michelson, Mirau, Linnik, Fizeau.

4. The device according to one of the preceding claims, in which the profilometry means (10) and the imaging means (11) have substantially parallel optical axes (21, 27).

5. The device according to one of the preceding claims, also comprising a support for positioning a wafer (12) with a first face (13) facing profilometry means (10) and a second face facing imaging means (11).

6. Method for carrying out measurements of shape on a first surface (13) of a wafer (12) relative to structures (14) present beneath said first surface (13), characterized in that it comprises the following steps:

- acquiring measurements of shape according to at least one measurement field on said first surface (13) of the wafer (12) by implementing profilometry means (10) with a full-field interferometer (20);
- acquiring a reference image of the structures (14) according to at least one imaging field on or through a second surface of the wafer (12) opposite to the first surface (13), implementing imaging means (11) facing said profilometry means (10);

said measurement and imaging fields are referenced in position within a common frame of reference (15).

7. The method according to claim 6, also comprising a step of identification of the position of the structures (14) in the reference image.

8. The method according to claim 7, comprising a step of acquiring measurements of shape in proximity to at least one identified structure position.

9. The method according to one of claims 6 to 8, also comprising a prior step of calibration with location of the position of the measurement and imaging fields within a common frame of reference (15) in the form of a reference plane.