



ABSTRACT

This invention provides apparatus for and a method of interferometrically inspecting a surface of an object. The invention is particularly well suited for inspecting semiconductor devices in the sub-micron range.

A two beam interference microscope (102) obtains an image of an object (100) which is mounted on a piezo controlled sample table (104) and illuminated using a broadband light source. A CCD camera (100) obtains an image and the image is processed by using information derived from the interference fringes.

The advantage is that large step heights can be measured and that a priori knowledge of the surface is not required.

The invention can be adapted so that it can be used to simultaneously inspect and analyse an object, the latter being achieved by utilising data derived from a characteristic phase and/or spectral variation occurring in reflected light. This data can be manipulated mathematically e.g. by a Fourier Transform.

FIGURE 1