Claims

1. An inspection device (1,100), suitable for use when inspecting a component (5) for defects (35,65), the inspection device (1,100) comprising,

a cluster of lights (9, 55, 56) which are arranged into two or more groups of lights (11a-d, 57a-d, 56a-d), wherein the cluster of lights (9,55,56) is configured such that each group of lights (11a-d, 57a-d, 56a-d) can be operated asynchronously to the other group(s) of lights (11a-d, 57a-d, 56a-d) so that light can be directed asynchronously at a component (5), from different directions;

an image capturing means (7) which is configured to capture an image of a component (5) when each of the groups of lights (11a-d, 57a-d, 56a-d) are lit, to provide a plurality of images, each image showing the component (5) lit from a different direction;

a processing means (23) configured to perform arithmetic computation using the images, so as to provide a single image in which defects (35,65) in the component (5) can be more easily identified, wherein, the arithmetic computation comprises linear arithmetic computation, and wherein the linear arithmetic computation comprises addition, subtraction and/or division of the images.

~~2. The inspection device according to claim 1 wherein, the arithmetic computation comprises linear arithmetic computation.~~

~~3. The inspection device according to claim 2 wherein the linear arithmetic computation comprises addition, subtraction and/or division of the images.~~

~~4.~~2. The inspection device according to any one of the preceding claims, further comprising a diffuser.

~~5.~~3. The inspection device according to any one of the preceding claims further comprising a dome element which comprises a surface which is configured to scatter light.

~~6.~~4. The inspection device according to claim ~~5~~ 3 wherein the dome element is configured to scatter light which has been defused by a diffuser.

~~The diffuser is configured to define a passage through which light scattered by the reflective surface of the dome can pass, to allow illumination a component.~~

~~7.~~5. The inspection device according to any one of the preceding claims, further comprising one or more further clusters of lights.

~~8.~~6. The inspection device according to claim ~~7~~ 5 wherein said clusters of lights are arranged at different vertical orientations.

~~9.~~7. The inspection device according to any one of the preceding claims further comprising a further cluster of lights which are configured such that they can direct light axially towards a component which is being inspected.

~~10.~~8. The inspection device according to any one of the preceding claims further comprising a beam splitter.

~~11.~~9. The inspection device according to any one of the preceding claims wherein the cluster of lights are

arranged in a rectangle and wherein the lights at each side of the rectangle define a group of lights.

~~12.~~10. The inspection device according to any one of claims 1-~~10~~ 8 wherein the cluster of lights are arranged in a circle and wherein the lights defining the circle are segmented, each segment defining a group of lights.

~~13.~~11. The inspection device according to any one of claims 1-10 comprising a~~A~~ lighting arrangement, the lighting arrangement ~~–~~comprising, a cluster of lights; a first diffuser arranged to diffuse light coming from the cluster of lights; a dome element, wherein the dome element comprises a reflective surface which is configured to scatter light which has been diffused by the first diffuser, so as to provide light which has improved distribution.

~~14.~~12. The inspection device ~~The lighting arrangement~~ according to claim ~~13~~ 11 wherein the cluster of lights define a passage through which light scattered by the reflective surface of the dome can pass, to allow illumination a component.

~~15.~~13. A method of inspecting a component (5) comprising the steps of, operating a cluster of lights (9, 55, 56) which are arranged into two or more groups of lights (11a-d, 57a-d, 56a-d) such that each group of lights (11a-d, 57a-d, 56a-d) is operated asynchronously to the other group(s) of lights (11a-d, 57a-d, 56a-d) so that light is directed asynchronously, in different directions, at a component (5) to be inspected; operating an image capturing means (7) to capture an image of the component (5) when each of the groups of lights (11a-d, 57a-d, 56a-d) are lit, to provide a plurality of images

each image showing the component (5) lit from a different direction; wherein the method further comprises, performing arithmetic computation using the images, so as to provide a single image in which defects (35,65) in the component (5) can be more easily identified, wherein, the arithmetic computation comprises linear arithmetic computation which comprises addition, subtraction and/or division of the images.