

ABSTRACT

A method and system for evaluating an object that has a repetitive pattern. Illumination optics of an optical unit are adapted to scan a spot of radiation over a repetitive pattern that includes multiple regularly repeating structural elements that are optically distinguishable from their background, generating a diffraction pattern that includes multiple diffraction lobes. Collection optics are adapted to focus radiation from the repetitive pattern onto a detector. The focused radiation includes a single diffraction lobe while not including other diffraction lobes. A grey field detector generates detection signals, responsive to the focused collected radiation. The optical unit is adapted to maintain, at a detection surface of the grey field detector, a radiation pattern that includes a first radiation pattern component resulting from the repetitive pattern and a second radiation pattern component resulting from a defect; wherein the first radiation pattern component is stronger than the second radiation component.