CLAIMS:

1. An imaging device comprising:

a detector assembly having sensor elements configured to measure intensity of light/radiation thereby received and generate measurement data/signals indicative thereof;

an aperture assembly having at least two partial apertures, each one of said at least two partial apertures configured to pass therethrough light/radiation received from an object and affect a different polarization orientation thereto;

a polarizer arrangement located between said detector assembly and said aperture assembly, said polarizer arrangement configured to affect at least two different polarization orientations to light passing therethrough onto at least two sensor elements of said detector assembly; and

a processor unit configured to process the measurement data/signals from said at least two sensor elements, and determine based thereon a distance of said object from said imaging device.

2. The imaging device of claim 1 further comprising a polarization interferometer configured for imaging the object, a detector assembly having sensor elements configured to measure intensity of light/radiation thereby received and generate interferometric measurement data/signals indicative thereof, and a polarizer arrangement configured to affect at least two different polarization orientations to light from said polarization interferometer onto at least two sensor elements of said detector assembly, and wherein the processor unit is configured to process said interferometric measurement data/signals and determine based thereon a local phase difference, and augment resolution and/or dynamic range of the determined distance.

3. The imaging device of claim 2 wherein the aperture assembly is optically coupled to the polarization interferometer.

4. The imaging device of claim 2 wherein the polarization interferometer comprises a light source, a mirror, a polarizing beam splitter configured to receive light from said light source, transmit a portion of the received light with a first polarization orientation in a first direction towards said mirror, reflect another portion of the received light with a second polarization orientation in a second direction towards the object, and direct combined light reflected from said object and from said mirror towards in a third direction, a first phase retarder for shifting phase of the light reflected towards the object and of light reflected back from said object towards said polarizing beam splitter, a second phase retarder for shifting phase of the light transmitted towards the mirror and of light reflected back from said mirror towards said

polarizing beam splitter, and an optical coupler configured direct a portion of the combined light towards the detector assembly of the polarization interferometer and another portion of said combined light towards the aperture assembly.

5. The imaging device of claim 1 comprising an optical assembly configured to direct light/radiation from the object, through the aperture assembly, to the detector assembly.

6. The imaging device of claim 1 wherein the aperture assembly is configured to apply a predefined phase difference between the at least two components of the light/radiation, and wherein the processor is configured to determine the distance of the object based on said predefined phase difference and the measurement data/signals.

7. The imaging device of claim 1 comprising at least one of a phase retarder and a polarizing element in at least one of the partial apertures of the aperture assembly for affecting the different polarization orientations to the at least two light/radiation components passed therethrough.

8. The imaging device of claim 1 comprising at least one of the following: a variable phase retarder in at least one of the partial apertures of the aperture assembly, and wherein the processor is configured to control said variable phase retarder to apply at least two predefined different phase shifts to the light/radiation passed therethrough at respective at least two different time instances, and determine the distance of the object at least partially based on the measurement data/signals acquired by said detector assembly for said respective at least two different time instances; at least one polarizer configured to apply a predefined polarization orientation to the light/radiation received by the aperture assembly; a light/radiation source configured to illuminate the object with light/radiation having a defined polarization orientation and/or band of wavelengths.

9. The imaging device of claim 1 comprising one or more bandpass filters each configured to limit passage of light/radiation therethrough towards the sensor elements of the detector assembly to a different range of wavelengths.

10. The imaging device of claim 9 wherein the one or more bandpass filters form a defined spatial distribution of bandpass filter elements.

11. The imaging device of claim 9 wherein the one or more bandpass filter elements forms a spatial distribution of at least one bandpass element of a predefined wavelength range and at least one passthrough non-filtering element allowing complete passage of the light/radiation therethrough.

12. The imaging device of claim 1 wherein the polarizer arrangement comprises a plurality of polarizer elements configured to form a defined spatial distribution of polarizer elements

arranged such that the polarization orientation of at least some of said polarizer elements is different from polarization orientations of polarizer elements adjacently located thereto.

13. The imaging device of claim 12 comprising at least one of the following: the one or more bandpass filters of claim 9 configured to direct light/radiation of certain wavelength ranges onto respective polarizer elements of the polarizer arrangement having certain polarization orientations; a variable polarizer in the polarizer arrangement and wherein the control unit is configured to set a polarization direction of said variable polarizer.

14. The imaging device of claim 12 comprising the one or more bandpass filters of claim 9 and wherein the polarizer elements are configured to direct light/radiation of certain polarization orientations onto respective one or more bandpass filters having certain wavelength ranges.

15. The imaging device of claim 1 comprising at least one of the following: a microlens array located anterior to the sensor elements of the detector assembly; a retarder element anterior to the sensor elements of the detector assembly; an array of retardation elements in the detector assembly and having a defined arrangement of different retardation elements spatially alternatingly distributed therein; an array of retardation elements in the detector assembly and having a defined arrangement of different retardation elements spatially alternatingly distributed therein, wherein the array of retardation elements are configured to form a rectangular alternating grid of the of retardation elements to thereby pass polarized light/radiation onto some of the polarizer elements of the array of polarizer elements having certain one or more polarization orientations.

16. The imaging device of claim 1 configured for one of the following: to further determine by a processor one or more colors and/or grey-scale levels from the measurement data for each sensor element of the sensor device; calibrate the device by relative rotation of polarizations of some of the polarization elements; manipulate the energy distribution measured by the detector assembly by a combined rotation of some of the polarization elements, to thereby improve sensitivity.

17. An imaging method comprising: dividing light from an object into at least two portions having different polarization orientations; spatially affecting at least two different polarization orientations to said at least two light portions; measuring intensity of the spatially polarized light and generating measurement data/signals indicative thereof; and processing the measurement data/signals and determining based thereon a distance of said object.

18. The imaging method of claim 17 comprising at least one of the following: affecting a predefined polarization orientation to the light from the object; radiating the object with

light/radiation having a defined polarization orientation; filtering the light of the at least two different polarization orientations by one or more bandpass filters having different wavelength ranges; forming a defined spatial distribution of the filtering of the light by the one or more bandpass filters and associating one or more of said bandpass filters with polarization orientations of the defined distribution of polarization orientations; forming a defined distribution of polarization orientations by the spatially affecting of the at least two different polarization orientations to the at least two light/radiation portions; associating polarization orientations of the defined distribution of polarization orientations with bandpass filters of the one or more bandpass filters; affecting a phase shift to the at least two light portions so as to affect a desired polarization thereto; forming a defined spatial distribution of different phase shifts to the at least two light portions; determining one or more colors and/or grey-scale levels from the measurement data; a calibration step including affecting a relative rotation of polarization orientation to one or more components of the light/radiation from the object; performing a combined rotation of polarization orientations to components of the light/radiation from the object to cause an energy distribution in the measurement data; imaging the object through a polarization interferometer to affect a phase difference to light from the object according to a distance thereof from said polarization interferometer, affecting at least two different polarization orientations to a light component from said polarization interferometer onto sensor elements and acquiring imagery data therefrom, processing said imagery data to determine said phase difference, and augmenting at least one of resolution and dynamic range of the determined distance based on said phase difference.

19. The method of claim 17 comprising illuminating the object with light having a define band of wavelengths.

20. The imaging method of claim 17 comprising imaging the object through a polarization interferometer to affect a phase difference to light from the object according to a distance thereof from said polarization interferometer, affecting at least two different polarization orientations to a light component from said polarization interferometer onto sensor elements and acquiring imagery data therefrom, processing said imagery data to determine said phase difference, and augmenting at least one of resolution and dynamic range of the determined distance based on said phase difference.