

CLAIMS

1. A device comprising:

an optical sensing unit comprising:

a center region including:

a plurality of first light emitters, each first light emitter configured to emit one of a plurality of first light paths having first wavelengths;

one or more second light emitters configured to emit second light paths having second wavelengths, different from the first wavelengths,

wherein the plurality of first light emitters is located closer to a peripheral region than the one or more second light emitters; and

the peripheral region located around the center region, the peripheral region including:

a plurality of light detectors configured to detect the first light paths and the second light paths,

wherein the plurality of light detectors is oriented in a concentric arrangement,

wherein each of the plurality of light detectors has a separation distance from each of the one or more second light emitters,

wherein the separation distances of the plurality of light detectors are the same.

2. The device of claim 1, further comprising:

a lens including a plurality of regions, the plurality of regions including:

a first region overlaying the plurality of first light emitters; and

a second region overlying the one or more second light emitters, wherein optical properties of the first region differ from optical properties of the second region.

3. The device of claim 1, wherein each of the plurality of first light emitters has a center located at a radial angle relative to a center of the center region, and centers of two of the

plurality of light detectors are located at the radial angle relative to the center of the center region.

4. The device of claim 1, wherein each of the first light emitters is located such that a separation distance between the respective first light emitter and one of the plurality of light detectors is less than separation distances between the respective first light emitter and others of the plurality of light detectors.

5. The device of claim 1, further comprising:
an optical isolation located between the plurality of first light emitters and the plurality of light detectors,
wherein walls of the optical isolation define one or more cavities, wherein the plurality of first light emitters and the one or more second light emitters are located in a cavity separate from the plurality of light detectors.

6. The device of claim 1, further comprising:
a retroreflector located between the center region and the peripheral region, wherein the retroreflector is configured to reflect light in a direction away from at least one of the plurality of light detectors.

7. The device of claim 1, further comprising:
one or more windows located proximate to the center region and the peripheral region;
and
an opaque mask located between the center region and the peripheral region, wherein the opaque mask is configured to absorb light reflecting off an interface of the one or more windows.

8. The device of claim 1, further comprising:
a selective transparent layer located in the peripheral region, the selective transparent layer including a plurality of first sections and a plurality of second sections, wherein the plurality of first sections overlays one or more first portions of the peripheral region and the plurality of second sections overlays one or more second portions of the peripheral region, the one or more second portions overlay the plurality of light detectors.

9. The device of claim 8, wherein the plurality of first sections includes material that is partially transparent to the first wavelengths and transparent to the second wavelengths.

10. The device of claim 8, wherein the plurality of second sections excludes material.

11. The device of claim 1, wherein the first wavelengths include one or more visible wavelengths, and the second wavelengths include one or more infrared wavelengths.

12. The device of claim 1, wherein the first region of the lens is a Fresnel lens, and the second region of the lens includes a plurality of prisms.