CLAIMS:

1. An opto-electronic module comprising

~~———~~a detecting channel comprising a detecting member for detecting light; and

~~———~~an emission channel comprising an emission member for emitting light generally detectable by said detecting member;

wherein the detecting member and the emission member are mounted on a same substrate, ~~at least one of~~

~~A) a radiation distribution characteristic for an emission of light from said emission channel is non rotationally symmetric;~~

~~B) a sensitivity distribution characteristic for a detection in said detecting channel of light incident on said detection channel is non rotationally symmetric;~~

~~C) a central emission direction for an emission of light from said emission channel and a central detection direction for a detection of light incident on said detection channel are aligned not parallel to each other;~~

~~D) a main emission direction for an emission of light from said emission channel and a main detection direction for a detection of light incident on said detection channel are aligned not parallel to each other;~~

~~E)~~ at least ~~a first~~ one of said detecting channel ~~and~~or said emission channel comprising, respectively, at least one of

~~e~~a1) at least two passive optical components each having ~~an~~ a respective optical axis, wherein said at least two passive optical components are arranged such that ~~said at least two~~ the respective optical axes of the at least two passive optical components do not coincide; or

~~e~~a2) at least one passive optical component having an optical axis, wherein said at least one passive optical component is arranged with respect to said detecting member ~~and~~ or said emission member, respectively, in the same channel as the at least one passive optical component ~~comprised in said first channel~~ such that said optical axis does not coincide with a central axis of detection ~~and~~ or emission, respectively, of said detecting member ~~and~~ or said emission member, respectively, in the same channel as the at least one passive optical component.~~comprised in said first channel;~~

~~e3) at least one passive optical component constituting a non rotationally symmetric beam forming element or a portion of a non rotationally symmetric forming element, in particular a non rotationally symmetric lens or a portion of a non rotationally symmetric lens;~~

~~e4) at least one passive optical component arranged so as to accomplish that a main direction or a central direction of light entering and exiting, respectively, said first channel is angled with respect to a main direction and central direction, respectively, of light entering and exiting, respectively, said first channel without presence of said at least one passive optical component in said first channel.~~

2. The opto-electronic module according to claim 1, wherein said opto-electronic module is a proximity sensor.

3. The opto-electronic module according to claim 1 or claim 2, wherein said opto-electronic module comprises

— a housing in which said detecting member and said emission member are arranged.

4. The opto-electronic module according to claim 3, wherein a shape of said housing defines a first plane, and wherein at least one of

— a radiation intensity distribution for an emission of light from said emission channel; and

— a radiation sensitivity distribution for the detection by said detecting member of light incident on said opto-electronic module ;

is asymmetric with respect to any surface normal of said first plane.

~~5. The opto-electronic module according to one of the preceding claims, wherein constituents of said opto-electronic module are stuctured and arranged such that at least one of cases A), B), C), D) applies.~~

~~6. The opto-electronic module according to one of the preceding claims, wherein A) and B) applies.~~

~~7. The opto-electronic module according to one of the preceding claims, wherein in each of said emission channel and detecting channel, at least one of cases e1) to e4) applies.~~

~~8. The opto-electronic module according to one of the preceding claims, wherein one of said detecting channel and said emission channel comprises, in particular wherein both of said detecting channel and said emission channel comprise, at least one passive optical component, said at least one passive optical component being identical with or different from passive optical components addressed in case E), in particular wherein said at least one passive optical component is a lens element.~~

~~9~~5. The opto-electronic module according to one of the preceding claims, wherein at least one of said detecting and emission channels comprises at least one lens element which is cut at at least one side, in particular wherein said side faces the respective other channel.

~~10~~6. The opto-electronic module according to one of the preceding claims, comprising a substrate on which said detecting member and said emission member are mounted, in particular wherein said substrate is a printed circuit board.

~~11~~7. The opto-electronic module according to ~~one of the preceding claims~~ claim 6, comprising an optics member comprising at least one passive optical component, in particular wherein the opto-electronic module further comprises a spacer member separating the printed circuit board from the optics member.

~~12~~8. The opto-electronic module according to claim ~~11~~7, further comprising a baffle member arranged next to said optics member and forming a portion of a housing of said opto-electronic module.

~~13~~9. The opto-electronic module according to one of the preceding claims, wherein said detecting channel and said emission channel are physically separated, in particular wherein said physical separation is constructed such that light generally detectable by said detecting member emitted by said emission member and remaining within the opto-

electronic module cannot enter the detecting channel and be detected by said detecting member.

~~14~~10. ~~An~~ The opto-electronic module of claim 1 wherein at least one of the passive optical components in at least one of the detecting or emission channels constitutes at least one of the following:~~comprising~~

~~a first optical channel;~~

~~a second optical channel;~~

~~wherein at least one of said first and second optical channels comprises an optical structure, for which at least one of the following applies:~~

~~said optical structure constituting a non rotationally symmetric beam forming element or a portion of a non rotationally symmetric forming element, in particular wherein said optical structure is a passive optical component constituting a non rotationally symmetric beam forming element or a portion of a non rotationally symmetric forming element;~~

~~said optical structure constituting~~ a non rotationally symmetric lens ~~or a portion of a non rotationally symmetric lens, in particular wherein said optical structure is a passive optical component constituting a non rotationally symmetric lens or a portion of a non rotationally symmetric lens~~;

~~said optical structure constituting a passive optical component having a non-circular aperture, in particular~~ a lens or lens element having a non-circular lens aperture;

~~said optical structure constituting a passive optical component having an aperture describing a shape of a truncated circle, in particular~~ a lens or lens element describing a shape of a truncated circle;

~~said optical structure constituting a passive optical component having an aperture describing a shape of a circle a section of which is replaced by a straight line, in particular~~ a lens or lens element describing a shape of a circle a section of which is replaced by a straight line;

~~said optical structure constituting~~ a truncated lens or lens element~~, in particular wherein said lens or lens element is truncated along a straight line~~;

~~said optical structure is a cut optical structure, in particular~~ a cut lens or lens element;

~~said optical structure is a lens or lens element which is cut at at least one side;~~

~~said optical structure constituting~~ a lens or lens element having a non-circular edge, ~~in particular an edge comprising a circular edge portion and, in addition, a non-circular edge portion, more specifically~~ wherein said non-circular edge portion describes a straight line.

~~15. The opto-electronic module according to claim 14, wherein~~

~~said first optical channel is a detecting channel comprising a detecting member for detecting light;~~

~~said second optical channel is an emission channel comprising an emission member for emitting light generally detectable by said detecting member.~~

~~16~~11. The opto-electronic module according to claim 10~~14 or claim 15~~, wherein said at least one passive optical component ~~optical structure~~ is a spherical lens.

~~17~~12. The opto-electronic module according to ~~one of claims 14 to 16~~claim 10 or claim 11, wherein said at least one passive optical component ~~optical structure~~ is a refractive lens or lens element, in particular a convex lens or lens element.

~~18~~13. The opto-electronic module according to one of claims ~~14~~10 to ~~17~~12, wherein said at least one passive optical component ~~optical structure~~ is a plane-convex lens or lens element.

~~19~~14. The opto-electronic module according to one of claims ~~14~~10 to ~~18~~13, wherein each of said first and second channels comprises such a passive optical component~~an optical structure~~.

~~20~~15. The opto-electronic module according to claim ~~19~~14, wherein

— truncated sides of respective truncated circles in said first and second channels face each other;

— the respective straight lines of said apertures in said first and second channels face each other;

— respective truncated portions in said first and second channels face each other;

— respective cut portions in said first and second channels face each other;

— respective sides at which said lens or lens elements in said first and second channels are cut face each other; and

— respective non-circular edges in said first and second channels face each other;

respectively.

16. The opto-electronic module of claim 1 wherein at least one of the passive optical components in at least one of the detecting or emission channels constitutes a non-rotationally symmetric beam-forming element.

17. The opto-electronic module of claim 1 wherein at least one passive optical component in the detecting channel has an optical axis that does not coincide with a central axis of detection of the detecting member.

18. The opto-electronic module of claim 1 wherein at least one passive optical component in the emission channel has an optical axis that does not coincide with a central axis of emission of the emission member.

~~21. An opto-electronic module comprising~~

~~a detecting channel comprising a detecting member for detecting light;~~

~~an emission channel comprising an emission member for emitting light generally detectable by said detecting member;~~

~~wherein at least a first one of said detecting channel and said emission channel comprises at least one passive optical component constituting a non rotationally symmetric beam forming element or a portion of a non rotationally symmetric forming element.~~

~~22. An opto-electronic module comprising~~

~~a detecting channel comprising a detecting member for detecting light;~~

~~an emission channel comprising an emission member for emitting light generally detectable by said detecting member;~~

~~wherein at least a first one of said detecting channel and said emission channel comprises at least one lens element which is cut at at least one side.~~

~~23~~19. An electronic circuit comprising at least one opto-electronic module according to one of the preceding claims.

~~24~~20. The electronic circuit according to claim ~~23~~19, comprising a printed circuit board on which said at least one opto-electronic module is mounted.

~~25~~21. An electro-optic arrangement comprising at least one opto-electronic module according to one of claims 1 to 2 or an electronic circuit according to claim ~~23~~19 or claim ~~24~~20 and comprising an object to which said at least one opto-electronic module is attached in an attachment region of said object, wherein at least in a portion of said attachment region said object is transparent for light generally detectable by said detecting member.

~~26. The electro-optic arrangement according to claim 15, wherein at least in said attachment region said object is generally plate-shaped.~~

~~27~~22. The electro-optic arrangement according to claim 21~~25 or claim 26~~, wherein said detecting channel and said emission channel and said object are structured and arranged such that light emitted from said emission channel and experiencing a single internal reflection in said object propagates on paths only which do not reach an optically active surface of said detecting member.

~~28~~23. The electro-optic arrangement according to claim 21~~one of claims 25 to claim 27~~, wherein said object has a first side and generally opposite thereto a second side, said opto-electronic module being attached to said first side, in particular wherein a surface of said object at said second side is structured such that light generally detectable by said detecting member propagating inside said object can, at least partially, be internally reflected by said surface.

~~29~~24. The electro-optic arrangement according to one of claims 21 to 23~~25 to claim 28~~, wherein said object is a transparent plate, in particular a transparent glass plate or a transparent polymer plate.

~~30~~25. A device comprising at least one opto-electronic module according to one of claims 1 to ~~22~~18 or an electronic circuit according to claim ~~23~~19 or claim ~~24~~20 or an electro-optic arrangement according to one of claims ~~25~~21 to ~~29~~24.

~~31~~26. The device according to claim ~~30~~25, wherein the device is a hand-held device, in particular a hand-held communication device, more particularly a smart phone.

~~32~~27. The device according to claim ~~30~~25 or claim ~~31~~26 wherein the device is a photographic device, in particular a photo camera or a video camera.

~~33~~28. The device according to one of claim ~~30~~25 to ~~32~~27, comprising an electro-optic arrangement according to one of claims ~~16~~11 to ~~19~~14, wherein said object is at least a part of a housing of said device, in particular a cover glass of said device.