CLAIMS

1. A side pumped laser (5) comprising:

an elongated gain medium (10) provided between an output coupler (20) and a counter reflector (15); and

a pump source (65) configured to provide radiation to the gain medium (10) along a side (40) or long axis of the gain medium (10); wherein

radiation from the pump source (65) is incident on the gain medium (10) without passing through optical components;

the pump source (65) is provided facing, adjacent or in contact with a flat input surface (55) of the gain medium (10); wherein

the input surface (55) receives the radiation from the pump source (65); and

the gain medium (10) has a cross section that would be a quadrilateral but for the flat input surface (55) of the gain medium (10) that is provided instead of an edge, corner or apex of the gain medium (10).

2. A side pumped laser (5) according to claim 1, wherein light received from the pump source (65) by the gain medium (10) is diverging and non-focused.

3. A side pumped laser (5) according to claim 1 or claim 2, wherein the gain medium (10) has a cross section that would be a square apart from a longitudinally extending flat input surface (55) that is provided instead of a corner of the sides (40) of the gain medium (10).

4. A side pumped laser (5) according to any preceding claim, wherein the gain medium (10) is coated with a reflective and/or thermally conductive coating (60).

5. A side pumped laser (5) according to any preceding claim, wherein the pump radiation is matched to a volume of a single TEM00 mode.

6. A side pumped laser (5) according to any preceding claim, wherein the doping of the gain medium (10) tailors a beam spot size to at least one dimension of the gain medium and/or to control the power density of the beam.

7. A side pumped laser (5) according to any preceding claim, wherein the laser comprises a passive Q-switch (30).

8. A side pumped laser (5) according to any preceding claim, wherein the largest dimension of at least one of the gain medium (10), the Q-switch (30), the pump source (65) and/or a housing or container (75) is less than 5cm; wherein

the housing or container contains or is configured to receive the gain medium, the pump source, the counter reflector, the output coupler and/or the Q-switch.

9. An apparatus or system comprising a side pumped laser (5) according to any of the preceding claims.

10. The apparatus or system of claim 9, wherein the apparatus or system comprises or is comprised in a sensor, a laser designator or a rangefinder.

CLAIMS

1. A side pumped laser (5) comprising:

an elongated gain medium (10) provided between an output coupler (20) and a counter reflector (15); and

a pump source (65) configured to provide radiation to the gain medium (10) along a side (40) or long axis of the gain medium (10); wherein

the laser (5) is configured such that radiation from the pump source (65) is directly incident on the gain medium (10); and

the pump source (65) is provided proximate, adjacent or in contact with the gain medium (10).

2. A side pumped laser (5) according to claim 1, wherein radiation from the pump source (65) is incident on the gain medium (10) without passing through other optical components.

3. A side pumped laser (5) according to claim 1 or claim 2, wherein the pump source (65) is provided facing, adjacent or in contact with a flat input surface (55) of the gain medium (10) such that the input surface (55) receives the radiation from the pump source (65).

4. A side pumped laser (5) according to any preceding claim, wherein the gain medium (10) has a cross section that would be a quadrilateral but for the flat input surface (55) of the gain medium (10) that is provided instead of an edge, corner or apex of the gain medium (10).

5~~2~~. A side pumped laser (5) according to any preceding claim ~~1~~, wherein the laser (5) is configured such that light received from the pump source (65) by the gain medium (10) is diverging and non-focussed.

6~~3~~. A side pumped laser (5) according to any preceding claim ~~1 or claim 2~~, wherein the gain medium (10) comprises a square sectioned rod.

74. A side pumped laser (5) according to any preceding claim, wherein an input surface (55) of the gain medium (10) comprises a commuted, flattened, formed or removed edge, corner or apex of the gain medium (10).

85. A side pumped laser (5) according to any preceding claim, wherein the gain medium (10) is coated with a reflective and/or thermally conductive coating (60).

96. A side pumped laser (5) according to any preceding claim, wherein the pump radiation is matched to a volume of a single TEM00 mode.

107. A side pumped laser (5) according to any preceding claim, wherein the doping of the gain medium (10) is adapted to tailor a beam spot size to at least one dimension of the gain medium and/or to control the power density of the beam.

118. A side pumped laser (5) according to any preceding claim, wherein the laser comprises a passive Q-switch (30).

129. A side pumped laser (5) according to any preceding claim, wherein the largest dimension of the gain medium (10) and/or the Q-switch (30) and/or the pump source (65) and/or a housing or container (75) in which at least some components of the laser (5) is received is less than 5cm~~, preferably less than 3cms and most preferably less than or equal to 2cm~~.

1310. An apparatus or system comprising a side pumped laser (5) according to any of the preceding claims.

1411. The apparatus or system of claim 1310, wherein the apparatus or system comprises or is comprised in a sensor, a laser designator or a rangefinder

15~~12~~. A method of producing a side pumped laser (5) according to any of claims 1 to 12~~9~~, the method comprising providing the pump source (65) of the laser (5) in contact with, adjacent or proximate a long side of the gain medium (10).

~~13. A side pumped laser (5) substantially as shown in the drawings and/or described in the description.~~