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Title: Wavelength orthogonal polarization dual laser for use in slatted non-linear frequency optical fiber communication field, has pumping system that forms reverse particle number distribution active ion transition

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Patent Assignee(s): FUJIAN MATERIAL STRUCTURE INST (FUJI-Non-standard)

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Abstract: NOVELTY - The laser has an anisotropic neodymium-doped laser crystal (3) for pumping an active ion in a laser crystal. A pumping system (6) forms reverse particle number distribution active ion transition transmitting horizontal polarization and vertical polarization wavelength dual radiation. An optical resonant cavity is provided with a linear resonant cavity and folded cavity. A polarizing element (2) i.e. polarizing dispersion prism or polarizing plate, is inserted into a reflector in a reflector (1). The pumping system is provided with a pumping source laser diode and a driving source.

USE - Wavelength orthogonal polarization dual laser for use in a slatted non-linear frequency optical fiber communication field.

ADVANTAGE - The laser has high power, high wave coherent sum or terahertz (THz) radiation difference frequency and wide range application.

DETAILED DESCRIPTION - The anisotropic neodymium-doped laser crystal is neodymium-doped yttrium aluminum perovskite (Nd:YAlO3), neodymium-doped yttrium lithium fluoride (Nd:YLiF4), neodymium doped yttrium orthvanadate (Nd:YVO4) or neodymium doped gadolinium orthovanadate (Nd:GdVO4) crystal.

DESCRIPTION DRAWING(S) - The drawing shows a schematic view a wavelength orthogonal polarization dual laser.

Reflector (1)

Polarizing element (2)

Anisotropic neodymium-doped laser crystal (3)

Output coupling mirror (4)

Pumping system (6)

Derwent Class Code(s): L03 (Electro-(in)organic, chemical features electrical devices); V07 (Fibre-optics and Light Control); V08 (Lasers and Masers)

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