

(12) International Application Status Report

Received at International Bureau: 23 May 2018 (23.05.2018)

Information valid as of: 19 November 2018 (19.11.2018)

Report generated on: 20 March 2019 (20.03.2019)

(10) Publication number:

WO2018/223821

(43) Publication date:

13 December 2018 (13.12.2018)

(26) Publication language:

Chinese (ZH)

(21) Application Number:

PCT/CN2018/087045

(22) Filing Date:

16 May 2018 (16.05.2018)

(25) Filing language:

Chinese (ZH)

(31) Priority number(s):

201720713800.7 (CN)

(31) Priority date(s):

19 June 2017 (19.06.2017)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

201711312298.X (CN)

08 December 2017 (08.12.2017)

Priority document received (in compliance with PCT Rule 17.1)

201720656433.1 (CN)

07 June 2017 (07.06.2017)

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

G01S 17/93 (2006.01)

(71) Applicant(s):

HESAI PHOTONICS TECHNOLOGY CO., LTD [CN/CN]; Floor 10 Building L2-B, Hongqiao World Centre, 1588 Zhuguang Road Shanghai 201702 (CN) *(for all designated states)*

(72) Inventor(s):

WANG, Rui; Floor 10 Building L2-B, Hongqiao World Centre, 1588 Zhuguang Road Shanghai 201702 (CN)

LI, Na; Floor 10 Building L2-B, Hongqiao World Centre, 1588 Zhuguang Road Shanghai 201702 (CN)

XIANG, Shaoqing; Floor 10 Building L2-B, Hongqiao World Centre, 1588 Zhuguang Road Shanghai 201702 (CN)

LI, Yifan; Floor 10 Building L2-B, Hongqiao World Centre, 1588 Zhuguang Road Shanghai 201702 (CN)

(74) Agent(s):

IPFAITH PARTNERS; 907C 8 Caihefang Rd., Haidian District Beijing 100080 (CN)

(54) Title (EN): MULTI-LINE LASER RADAR

(54) Title (FR): RADAR LASER À LIGNES MULTIPLES

(54) Title (ZH): 多线激光雷达

(57) Abstract:

(EN): A multi-line laser radar (1). The multi-line laser radar (1) comprises: a multi-line ranging laser emission module (110) comprising one or more lasers (112); a multi-line ranging laser reception module (120) comprising one or more photodetectors and designed to be adapted to detect a laser echo generated when a measurement laser emitted by the laser emission module (110) is incident to an obstacle (Z) and is diffusely reflected; a ranging information resolution module in electrical signal connection with the multi-line ranging laser emission module (110) and the multi-line ranging laser reception module (120), and designed to calculate the distance, in each direction, to the obstacle (Z) by means of calculating the time difference between the emission of the measurement laser and the receiving of the laser echo; and a control circuit and an optical system correspondingly configured for the multi-line ranging laser emission module (110) and the multi-line ranging laser reception module (120).

(FR): L'invention concerne un radar laser à lignes multiples (1). Le radar laser à lignes multiples (1) comprend : un module d'émission laser de télémétrie à lignes multiples (110) comprenant un ou plusieurs lasers (112) ; un module de réception laser de télémétrie à lignes multiples (120) comprenant un ou plusieurs photodétecteurs et conçu pour être adapté à détecter un écho laser généré lorsqu'un laser de mesure émis par le module d'émission laser (110) est incident vers un obstacle (Z) et est réfléchi de manière diffusée ; un module de résolution d'informations de télémétrie en connexion de signal électrique avec le module d'émission laser de télémétrie à lignes multiples (110) et le module de réception laser de télémétrie à lignes multiples (120), et conçu pour calculer la distance, dans chaque direction, vers l'obstacle (Z) par le calcul de la différence temporelle entre

l'émission du laser de mesure et la réception de l'écho laser ; et un circuit de commande et un système optique conçus de manière correspondante pour le module d'émission laser de télémétrie à lignes multiples (110) et le module de réception laser de télémétrie à lignes multiples (120).

(ZH): 一种多线激光雷达(1),多线激光雷达(1)包括:多线测距激光发射模块(110),其包括一个或多个激光器(112);多线测距激光接收模块(120),其包括一个或多个光电探测器且设计为适于检测激光发射模块(110)发射出的测量激光入射到障碍物(Z)上发生漫反射的激光回波;测距信息解算模块,其与多线测距激光发射模块(110)以及多线测距激光接收模块(120)具有电信号连接,被设计为通过计算发射测量激光以及接收到激光回波的时间差计算出各方向上障碍物(Z)的距离;以及为多线测距激光发射模块(110)和多线测距激光接收模块(120)对应配设的控制电路和光学系统。

International search report:

Received at International Bureau: 06 August 2018 (06.08.2018) [CN]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM