

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/087045

A. CLASSIFICATION OF SUBJECT MATTER

G01S 17/93 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT, CNKI, WPI, EPODOC: 王瑞, 上海禾赛光电科技有限公司, 多线, 激光, 雷达, 测距, 探测, 检测, 计算, 时间差, 角度, multi-line, multiline, laser, radar, distance, detect+, measure+, time, angle

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 206411269 U (LEISHEN INTELLIGENT SYSTEM CO., LTD.), 15 August 2017 (15.08.2017), description, paragraphs [0015]-[0039], and figures 1-5	1, 3, 4
PY	CN 206411269 U (LEISHEN INTELLIGENT SYSTEM CO., LTD.), 15 August 2017 (15.08.2017), description, paragraphs [0015]-[0039], and figures 1-5	2, 5-17
PY	CN 107271983 A (HESAI PHOTONICS TECHNOLOGY CO., LTD.), 20 October 2017 (20.10.2017), description, paragraphs [0029]-[0053], and figures 1 and 2	2, 5-8
Y	CN 205880217 U (KEENON ROBOTICS CO., LTD.), 11 January 2017 (11.01.2017), description, paragraphs [0059]-[0091] and [0098]-[0105], and figure 10	9-17
X	CN 106443699 A (FASTLASER LIDAR INC.), 22 February 2017 (22.02.2017), description, paragraphs [0035]-[0041], and figures 5, 6a, 6b and 8	1, 3, 4, 6-17
PX	CN 107367737 A (BENEWAKE (BEIJING) CO., LTD.), 21 November 2017 (21.11.2017), description, paragraphs [0021]-[0032], and figures 1-4	1, 3, 4, 6-17
A	JP 2000097697 A (MEIDENSHA ELECTRIC MFG CO., LTD.), 07 April 2000 (07.04.2000), entire document	1-17

Further documents are listed in the continuation of Box C.

See patent family annex.

<p>* Special categories of cited documents:</p> <p>“A” document defining the general state of the art which is not considered to be of particular relevance</p> <p>“E” earlier application or patent but published on or after the international filing date</p> <p>“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>“O” document referring to an oral disclosure, use, exhibition or other means</p> <p>“P” document published prior to the international filing date but later than the priority date claimed</p>	<p>“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>“&” document member of the same patent family</p>
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<p>Date of the actual completion of the international search</p> <p style="text-align: center;">20 July 2018</p>	<p>Date of mailing of the international search report</p> <p style="text-align: center;">03 August 2018</p>
<p>Name and mailing address of the ISA</p> <p>State Intellectual Property Office of the P. R. China</p> <p>No. 6, Xitucheng Road, Jimenqiao</p> <p>Haidian District, Beijing 100088, China</p> <p>Facsimile No. (86-10) 62019451</p>	<p>Authorized officer</p> <p style="text-align: center;">LI, Qingna</p> <p>Telephone No. 86-(10)-53962414</p>

INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 206411269 U	15 August 2017	None	
CN 107271983 A	20 October 2017	None	
CN 205880217 U	11 January 2017	None	
CN 106443699 A	22 February 2017	None	
CN 107367737 A	21 November 2017	None	
JP 2000097697 A	07 April 2000	None	