

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>WO40697</b>	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/CN2017/100036</b>	International filing date ( <i>day/month/year</i> ) <b>31 August 2017</b>	(Earliest) Priority Date ( <i>day/month/year</i> )
Applicant <b>SZ DJI TECHNOLOGY CO., LTD.</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed.

a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b.  This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (see Box No. II).

3.  **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figures is to be published with the abstract.

**Box No. IV**      **Text of the abstract (Continuation of item 5 of the first sheet)**

Methods and systems (30) for detecting and ranging an object (36) may include or be configured to carry out the steps of emitting, by a laser light source, a first beam of light incident on a surface of the object (36), receiving, at an avalanche photodiode (APD) array (38a), a second beam of light reflected from the surface of the object (36); reading, by a readout integrated circuit (ROIC) array (38d), from the APD array (38a); and processing, by the ROIC array (38d), accumulated photocurrent from the APD array (38a) for outputting a signal representative of the object (36) detected by the APD array (38a).

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2017/100036

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
G01S 7/481(2006.01)i; G01S 17/08(2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
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, EPODOC, WPI: radar, lidar, laser, beam, light, emit, receive, array, detector, photoelectric, APD, avalanche, diode, photomultiplier, lens, pixel, point, cloud		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2017242106 A1 (AEYE, INC.) 24 August 2017 (2017-08-24) description, paragraphs [0031]-[0034], [0044]-[0055],[0061], claims 1-58, figures 1A,2, 3A,6A-6B	1-5,7-28,30-31,37, 39-56,58-59,65,67
Y	US 2017242106 A1 (AEYE, INC.) 24 August 2017 (2017-08-24) description, paragraphs [0031]-[0034], [0044]-[0055], [0061], claims 1-58, figures 1A,2, 3A,6A-6B	6,29,32-36,38, 57,60-64,66
Y	US 2011169117 A1 (MASSACHUSETTS INSTITUTE OF TECHNOLOGY) 14 July 2011 (2011-07-14) description, paragraphs [0031]-[0032],[0091],figure 1	6,29,32-36,38, 57,60-64,66
A	CN 205643711 U (BENEWAKE CO., LTD.) 12 October 2016 (2016-10-12) the whole document	1-67
A	CN 103645470 A (HARBIN INST. OF TECHNOLOGY) 19 March 2014 (2014-03-19) the whole document	1-67
A	CN 104122561 A (UNIV. NANJING SCI. & TECHNOLOGY) 29 October 2014 (2014-10-29) the whole document	1-67
A	CN 104049255 A (UNIV. NANJING) 17 September 2014 (2014-09-17) the whole document	1-67
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "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 "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 "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 "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
08 May 2018		25 May 2018
Name and mailing address of the ISA/CN		Authorized officer
STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088 China		HE, Li
Facsimile No. (86-10)62019451		Telephone No. 86-(10)-53962378

**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

International application No.

**PCT/CN2017/100036**

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	2017242106	A1	24 August 2017	US	2017242105	A1	24 August 2017
				US	2017242102	A1	24 August 2017
				US	2017242109	A1	24 August 2017
				TW	201735565	A	01 October 2017
				US	2017242107	A1	24 August 2017
US	2011169117	A1	14 July 2011	US	2016181458	A1	23 June 2016
CN	205643711	U	12 October 2016	None			
CN	103645470	A	19 March 2014	CN	103645470	B	07 October 2015
CN	104122561	A	29 October 2014	CN	104122561	B	15 March 2017
CN	104049255	A	17 September 2014	CN	104049255	B	04 May 2016