

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: 610213 China (No. 846 South Tianfu Road) Tianfu Innovation Center, Chengdu, Sichuan METIS IP (CHENGDU) LLC
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference 20618245WO00	Date of mailing <i>(day/month/year)</i> 25 April 2018	
FOR FURTHER ACTION See paragraph 2 below		
International application No. PCT/CN2017/099940	International filing date <i>(day/month/year)</i> 31 August 2017	Priority date <i>(day/month/year)</i>
International Patent Classification (IPC) or both national classification and IPC H01J 35/10(2006.01)i		
Applicant Shenzhen United Imaging Healthcare Co., Ltd.		

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/ STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA China 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088	Date of completion of this opinion 19 April 2018	Authorized officer SHI, Yanli
Facsimile No. (86—10) 62019451	Telephone No. (86-10)53962573	

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INTERNATIONAL SEARCHING AUTHORITY

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established 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)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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Box No. V **Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	<u>2, 6-20</u>	YES
	Claims	<u>1, 3-5</u>	NO
Inventive step (IS)	Claims	<u>None</u>	YES
	Claims	<u>1-20</u>	NO
Industrial applicability (IA)	Claims	<u>1-20</u>	YES
	Claims	<u>None</u>	NO

2. Citations and explanations :

[1] **The opinion is made on the expectation in BOX No. VIII.**

[2] **Reference is made to the following documents:**

[3] **D1:EP1124250A1(16.08.2001)**

[4] **D2:CN102723251A(10.10.2012)**

[5] **D3:CN1812680A(02.08.2006)**

[6] **D4:CN101553896A(07.10.2009)**

[7] D1 discloses an radiation emission device (see D1 description, paragraphs [0016]-[0055], and figures 1-5), comprising a cathode assembly 18 configured to emit an electron beam A; a rotating anode 10 configured to rotate on a shaft 54, the anode 10 being situated to receive the electron beam A; a neck 40 configured to drive the anode 10 to rotate, the neck 40 being mechanically connected to the shaft 54; a rotor support 42 configured to support the shaft 54 via two bearing balls 44F and 44R; a glass envelope 14 configured to enclose the cathode assembly 18, the anode 10, and the neck 40, wherein the envelope 14 is connected to the rotor support 42, a portion of the rotor support 42 resides outside of the enclosure; a conical stator, wherein the neck 40 resides between the anode 10 and the bearing balls 44F, 44R; driving coils 32 mounted on the conical stator, wherein a magnetic field generated by the conical stator and the coils 32 drives the neck 40 to rotate; wherein the neck 40 is connected to the shaft 54 via one flange 52, and the flange 52 is configured to support the anode 10.

[8] **Novelty:**

[9] Every feature of claims 1,3-5 is explicitly disclosed by D1, thus the subject-matter of claims 1,3-5 is not new in the sense of Article 33(2) PCT.

[10] D1 does not disclose the additional features of claims 2,6,8-13,15-20.

[11] D1 does not disclose the following feature of claim 7: 1) each of the two bearings

[12] has an inner race and an outer race, the inner races being connected to an inner ring, the

[13] outer races being connected to an outer ring, and an interval between the inner races and the outer races is adjustable via an adjustment ring.

[14] D1 does not disclose the following additional feature of claim 14: 2) the at least one flange

[15] has a cavity, and at least a portion of the second cooling medium flows through the cavity.

[16] Thus the subject -matter of claims 2,6-20 meets the criteria of Article 33(2) PCT.

[17] **Inventive step:**

[18] The additional feature of claim 2 is disclosed by D2 (see D2 description, paragraphs [0003]-[0008]).

[19] The additional features of claims 6,8,15,17-20 and feature 2) are normal selections of a person skilled in the art.

[20] The feature 1) and the additional features of claims 9,10 are disclosed by D3 (see D3 description, page 6 line 10 to page 7 line 19, and figure 2).

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Box No. V

Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability;
citations and explanations supporting such statement

- [21] The additional features of claims 11-13,16 are disclosed by D4 (see D4 description, page 5 line 10 to page 7 line 20, and figure 1).
- [22] Therefore, claims 1-20 do not meet the criteria of Article 33(3) PCT.
- [23] **Industrial applicability:**
- [24] The inventions of claims 1-20 can be considered as involving the industrial applicability, meet the criteria of Article 33(4) PCT.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- [1] Claim 8 does not meet the requirements of PCT Article 6. The reason is as follows:
- [2] The expression of “the adjustment ring” in claim 8 is not clear and can not be clearly understood which technical feature is referred to.
- [3] The opinion in Box No. V is therefore made on the expectation that: claim 8 refers to claim 7.