(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
24 January 2008 (24.01.2008)

PCT

(10) International Publication Number
WO 2008/011582 A3

(51) International Patent Classification:
G01N 23/02 (2006.01) *G21K 3/00* (2006.01)
G01N 21/69 (2006.01)

(21) International Application Number:
PCT/US2007/074004

(22) International Filing Date: 20 July 2007 (20.07.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/807,988 21 July 2006 (21.07.2006) US
11/780,896 20 July 2007 (20.07.2007) US

(71) Applicant and
(72) Inventor: **CERNASOV, Andrei** [US/US]; 86 Miller Lane, Ringwood, NJ 07456 (US).

(74) Agent: **MALAMUD, Eliot, R.**; Lowe Hauptman & Berner, Llp, 1700 Diagonal Road, Suite 300, Alexandria, VA 22314 (US).

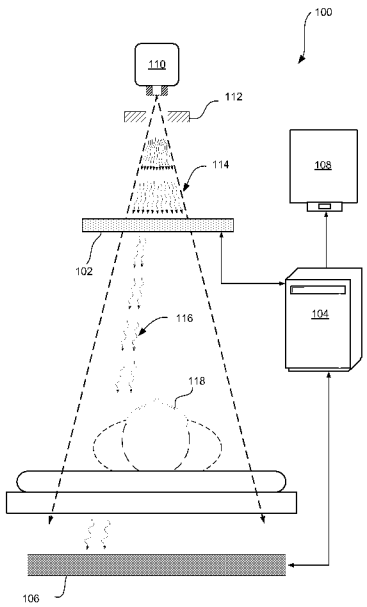
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
15 May 2008

(54) Title: RADIATION ATTENUATION DEVICE



(57) **Abstract:** An apparatus (100) and method of attenuating radiation (114) includes oscillating at least one fluid having a radiation attenuating property between at least two chambers, incident to applied radiation (114). The radiation attenuating device (102) includes at least communicating adjacent chambers, at least one fluid having radiation attenuating properties moveable between the at least two chambers, and a control circuit (104) configured to oscillate the at least one fluid between the chambers.

WO 2008/011582 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US07/74004

A. CLASSIFICATION OF SUBJECT MATTER
IPC: **G01N 23/02**(2006.01),**21/69**(2006.01);**G21K 3/00**(2006.01)

USPC: 250/505.1,507.1,515.1,423R,493.1,503.1
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)
U.S. : 250/505.1,507.1,515.1,423R,493.1,503.1

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)
EAST Search: BRS and IS&R

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,201,852 B1 (Goddu et al.) 13 March 2001 (13.03.2001), abstract; Figs. 1 and 5; col. 2, lines 24-34 and 53-60; col. 4, 22-40; and col. 6, line 63 to col. 7, line 24.	1-2, 7-9, 19-22

☐ Further documents are listed in the continuation of Box C. ☐ 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 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
17 March 2008 (17.03.2008)

Date of mailing of the international search report
24 MAR 2008

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Authorized officer
Nikita Wells

Telephone No. (571) 272-2484

Form PCT/ISA/210 (second sheet) (April 2007)