



(51) International Patent Classification:  
**G01T 3/00** (2006.01)

(21) International Application Number:

PCT/US2009/033764

(22) International Filing Date:

11 February 2009 (11.02.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/027,939 12 February 2008 (12.02.2008) US

(71) Applicant (for all designated States except US): **NOVA SCIENTIFIC, INC.** [US/US]; 10 Picker Road, Sturbridge, MA 01566 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DOWNING, R., Gregory** [US/US]; 1065 Niksayuna Road, Niskayuna, NY 12309 (US). **FELLER, W., Bruce** [US/US]; 50 Shanda Lane, Tolland, CT 06084 (US).

(74) Agent: **PYSHER, Paul, A.**; Fish & Richardson P.C., P.O. Box 1022, Minneapolis, Minnesota 55440-1022 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, 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, ST, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: NEUTRON DETECTION

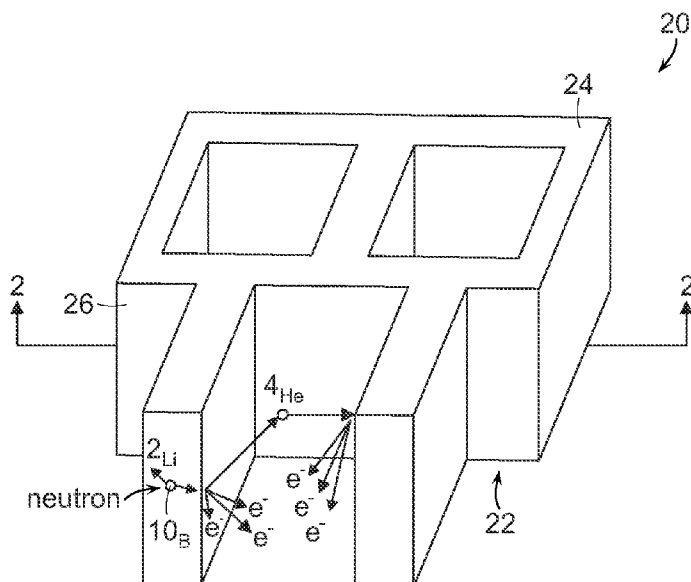


FIG. 1

(57) Abstract: In exemplary embodiments, an apparatus, includes a first electrode, a second electrode, a first polygonal channel extending between the electrodes, the first channel having a first side having a center, and a second polygonal channel extending between the electrodes, the second channel having a second side contacting the first side, the second side having a center, wherein the center of the first side and the center of the second side are non-collinear in a direction perpendicular to a surface of the first side, and wherein the first and second channels do not have square cross sections perpendicular to longitudinal axes of the channels.

**WO 2009/102768 A3**



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**Published:**

**(88) Date of publication of the international search report:**

— *with international search report (Art. 21(3))*

14 January 2010

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/33764

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G01T 3/00 (2009.01)

USPC - 250/390.01

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)

US: 250/390.01

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

U.S.: 250/390.01, 370.05, 391; 252/600; 257/E31.086; 438/56

IPC(8): G01T 3/00 (2009.01)

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

PubWEST (PGPB, USPT, USOC, EPAB, JPAB); GOOGLE Scholar; GOOGLE Patents for neuron, downing, feller, electrode, channel, neutron, detect\$, electrons, triang\$.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category*     | Citation of document, with indication, where appropriate, of the relevant passages                                                                                | Relevant to claim No.            |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| X<br>---<br>Y | US 2007/0132351 A1 (DOWNING et al.) 14 June 2007 (14.06.2007); Fig 8, 9, 11, 14, 18; para [[0035], [0041], [0060], [0070]-[0075], [0079], [0087], [0090], [0094]. | 1, 3-17, 19-30<br>-----<br>2, 18 |
| Y             | US 2005/0136529 A1 (YANG et al.) 23 June 2005 (23.06.2005); para [0036], [0037].                                                                                  | 2, 18                            |
| A             | US 7,265,359 B2 (AMBROSI et al.) 04 September 2007 (04.09.2007); entire document.                                                                                 | 1-30                             |
| A             | US 2003/0178574 A1 (WALLACE et al.) 25 September 2003 (25.09.2003); entire document.                                                                              | 1-30                             |

☐ Further documents are listed in the continuation of Box C.

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"P" document published prior to the international filing date but later than the priority date claimed

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"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

01 April 2009 (01.04.2009)

Date of mailing of the international search report

16 APR 2009

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:

Lee W. Young

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774