

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 December 2010 (09.12.2010)

PCT

(10) International Publication Number
WO 2010/141764 A3

(51) International Patent Classification:

A61B 5/0476 (2006.01) A61B 5/0482 (2006.01)
A61B 5/048 (2006.01) A61B 5/0484 (2006.01)

(21) International Application Number:

PCT/US2010/037312

(22) International Filing Date:

3 June 2010 (03.06.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/183,826 3 June 2009 (03.06.2009) US

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(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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, 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, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report: 24 February 2011

(54) Title: STEADY STATE MEASUREMENT AND ANALYSIS APPROACH TO PROFILING AUDITORY EVOKED POTENTIALS FROM SHORT-LATENCY TO LONG-LATENCY

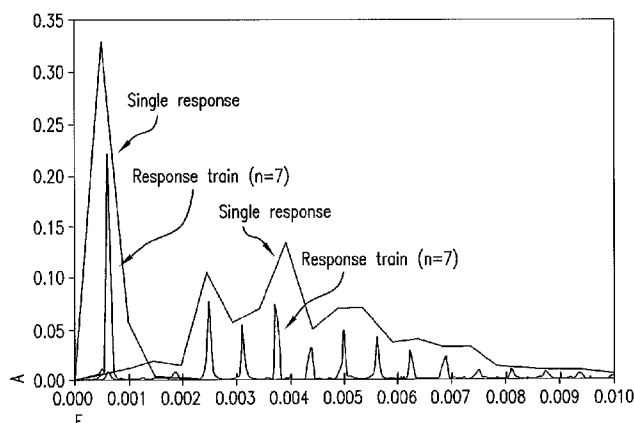


FIG.5A

(57) Abstract: The present invention relates to methods and systems for profiling evoked potentials in brain electrical activity which apply steady state response concepts to analysis of longer latency responses reflective of activity of brain regions beyond the brainstem, up to an including the cortex. The use of repeated stimuli within a single analysis window produces a quasi steady-state response and permits a high-resolution spectral analysis. Response amplitudes were measured at repetition rates from 80 to below 1 Hz, using trains of repeated tone-burst stimuli. An amplitude measure introduced and defined as the harmonic sum was incorporated into the spectral power of the response carried by both the fundamental frequency, and the harmonics thereof. Additionally, time ensemble averaging can be employed to improve signal to noise ratio.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/037312**A. CLASSIFICATION OF SUBJECT MATTER***A61B 5/0476(2006.01)i, A61B 5/048(2006.01)i, A61B 5/0482(2006.01)i, A61B 5/0484(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)

A61B 5/0476; A61B 5/04; G09B 21/00; A62B 7/00; A61B 19/00; A61M 16/00

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

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: auditory steady state response, frequency, synchronize, evoked potential

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7,123,955 B1 (XIAORONG GAO et al.) 17 October 2006 See abstract, column 2 line 58 - column 4 line 42, and figures 1-4	1-20
A	US 5,230,344 A (OZCAN OZDAMAR et al.) 27 July 1993 See abstract, column 4 line 31 - column 4 line 68, and figures 1,15,16	1-20
A	US 2002-0117176 A1 (HARALAMBOS MANTZARIDIS et al.) 29 August 2002 See abstract, paragraphs 5-17, and figures 1,7,8	1-20
A	US 2007-0032737 A1 (ELVIR CAUSEVIC et al.) 08 February 2007 See abstract, paragraphs 26-37, and figures 1-3	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

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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

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"&" document member of the same patent family

Date of the actual completion of the international search

10 JANUARY 2011 (10.01.2011)

Date of mailing of the international search report

11 JANUARY 2011 (11.01.2011)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

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Telephone No. 82-42-481-8543



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/037312

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