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(71) Applicant: THE GENERAL HOSPITAL CORPORATION [US/US]; 55 Fruit Street, Boston, MA 02114 (US).

(72) Inventors: PURDON, Patrick, L.; 140 Hudson St. #201, Somerville, MA 02144 (US). MUKAMEL, Eran, A.; 7527 La Jolla Blvd., Apt. 2, La Jolla, CA 92037 (US). BROWN, Emery, N.; 34 Francis St., Boston, MA 02446 (US).

(74) Agent: COOK, Jack, M.; Quarles & Brady LLP, 411 E. Wisconsin Ave., Milwaukee, WI 53202 (US).

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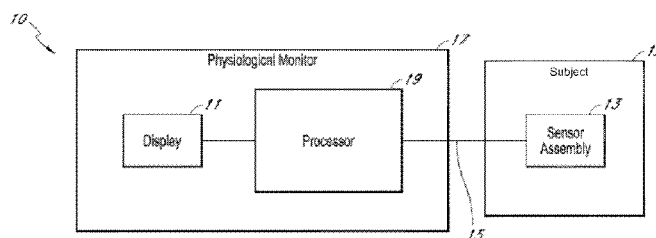
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(54) Title: SYSTEM AND METHOD FOR CHARACTERIZING BRAIN STATES DURING GENERAL ANESTHESIA AND SEDATION USING PHASE-AMPLITUDE MODULATION

FIG. 1A



(57) Abstract: A system and method for monitoring and/or controlling a state of consciousness of a subject experiencing anesthesia are provided. In some aspects, the system includes a plurality of sensors placed about the subject and configured to acquire electroencephalogram ("EEG") data therefrom while the subject is receiving anesthesia, and at least one processor configured to receive the EEG data from the plurality of sensors, and perform a phase-amplitude coupling analysis using the received EEG data to determine a phase-amplitude frequency distribution. The at least one processor is also configured to identify a state of consciousness of the subject using the determined phase-amplitude frequency distribution, and generate a report indicative of the state of consciousness of the subject.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2015/011304

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61B 5/0476 (2015.01)

CPC - A61B 5/0476, 5/4821 (2015.01)

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)

IPC(8) - A61B 5/00, 5/04, 5/0476, 5/048 (2015.01)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 600/544, 545

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

PatBase, Google Patents, Google Scholar, Google.

Search terms used: eeg, consciousness, phase amplitude coupling, frequency distribution, polarity comparison, peak max, trough max

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2013/0197339 A1 (NEUROCHIP CORPORATION) 01 August 2013 (01.08.2013) entire document	1-3, 6-7 ----- 8, 14
Y	WO2012/154701 A1 (THE GENERAL HOSPITAL CORPORATION) 15 November 2012 (15.11.2012) entire document	8, 14
A	US 2007/0179391 A1 (KURTZ et al) 02 August 2007 (02.08.2007) entire document	1-14
A	US 2003/0088161 A1 (STENGEL et al) 08 May 2003 (08.05.2003) entire document	1-14
A	PURDON et al. Electroencephalogram signatures of loss and recovery of consciousness from propofol. PNAS. E1142-E1151. 04 March 2013. [Retrieved 18 March 2015]. Retrieved from Internet: <URL: http://www.pnas.org/content/110/12/E1142.full.pdf >	1-14

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

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
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Authorized officer:

Blaine R. Copenheaver

PCT Helpdesk: 571-272-4300

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