

## PCT Recordation of Search History

Case/PCT Application Number: PCT/US17/16776

CLIN Number/Technical Field of PCT Application: 0002 - Life Sciences

Date(s) During Which the Search was Conducted: 30 - 31 March 2017

Date of Completion of Recordation of Search History Form: 31 March 2017

Research Analyst Initials: RH

Search Approval Official (SAO) Initials: MLW

### Field of Search/Classification Information:

IPC(8) Classifications: A61N 1/36, 1/04, 1/372 (2017.01)

CPC Classifications: A61N 1/36021, 1/0456, 1/36014, 1/37264, 1/0456, 1/36014, 1/37264; A61H 23/02, 39/002, 39/04, 39/08, 2201/0153, 2201/0157, 2201/0184, 2201/0188, 2201/10, 2201/1604, 2201/1609, 2201/1635, 2201/1685, 2201/5007, 2201/501, 2201/5012, 2201/5028, 2201/5035, 2201/5043, 2201/5048, 2201/5082, 2205/02, 2205/022, 2205/04, 2205/062, 2205/065, 2205/081, 2205/10, 2205/12, 2230/065, 2230/605, 2230/655

### Databases Searched (Patent and Non-Patent Literature (NPL), Including Sub-Databases and Files Searched) and Search Terms Used:

PatSeer (US, EP, WO, JP, DE, GB, CN, FR, KR, ES, AU, IN, CA, RU, AT, CH, TH, BR, PH, MX, NL, Other Countries (INPADOC); Google Patents; Google; Google Scholar; EBSCO; PubMed/Medline; stimulation, user, device, baseline, impedance, monitoring, re-position, cranial, scalp, regime, criterion, controller, electrodes

### Database Search String Recordation, Including Dates of Searches:

#### Patent Database Search Strategy/Results:

PatSeer

| ID  | Search String  | Records | Created Date |
|-----|--|---------|--------------|
| L67 | TAC:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND (((stimulat* OR neuro_stim* OR electrodes OR bio_electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) W3 (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone))) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] AND L50  | 0       | 31-Mar-17    |
| L66 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND (((stimulat* OR neuro_stim* OR electrodes OR bio_electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) W3 (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone))) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] AND L50 | 23      | 31-Mar-17    |
| L65 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND (((stimulat* OR neuro_stim* OR electrodes OR bio_electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) W3 (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone))) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016]         | 28      | 31-Mar-17    |
| L64 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND (((stimulat* OR neuro_stim* OR electrodes OR bio_electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) W2 (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone))) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016]         | 0       | 31-Mar-17    |
| L63 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND (((stimulat* OR neuro_stim* OR electrodes OR bio_electrodes) W2   | 332     | 31-Mar-17    |

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|     | (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)) WS (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone))) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016]  |    |           |
| L62 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (impedance W2 ( third OR 3rd)) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016]   | 3  | 30-Mar-17 |
| L61 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (impedance W2 ( third OR 3rd)) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016]   | 1  | 30-Mar-17 |
| L60 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (impedance W2 ( third OR 3rd)) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] AND CPC:(A61N1/36021 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61H23/02 OR A61H39/002 OR A61H39/04 OR A61H39/08)  | 1  | 30-Mar-17 |
| L59 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (impedance W2 ( third OR 3rd OR values OR measures OR measurements OR indices)) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] AND CPC:(A61N1/36021 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61H23/02 OR A61H39/002 OR A61H39/04 OR A61H39/08) | 46 | 30-Mar-17 |

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| L58 | TAC:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] AND CPC:(A61N1/36021 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61H23/02 OR A61H39/002 OR A61H39/04 OR A61H39/08)  | 0   | 30-Mar-17 |
| L57 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] AND CPC:(A61N1/36021 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61H23/02 OR A61H39/002 OR A61H39/04 OR A61H39/08) | 64  | 30-Mar-17 |
| L56 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016]  | 152 | 30-Mar-17 |
| L55 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes)) AND (IC:(A61N1/36))  | 194 | 30-Mar-17 |
| L54 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible OR neck)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND   | 300 | 30-Mar-17 |

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|     | ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes))   |       |           |
| L53 | TACD:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes))   | 579   | 30-Mar-17 |
| L52 | TACD:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim* OR electrodes) W2 (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes))  | 1116  | 30-Mar-17 |
| L51 | L50 AND L49  | 716   | 30-Mar-17 |
| L50 | (IC:(A61N1/36 OR A61N1/04 OR A61N1/372) OR CPC:(A61N1/36021 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61N1/0456 OR A61N1/36014 OR A61N1/37264 OR A61H23/02 OR A61H39/002 OR A61H39/04 OR A61H39/08 OR A61H2201/0153 OR A61H2201/0157 OR A61H2201/0184 OR A61H2201/0188 OR A61H2201/10 OR A61H2201/1604 OR A61H2201/1609 OR A61H2201/1635 OR A61H2201/1685 OR A61H2201/5007 OR A61H2201/501 OR A61H2201/5012 OR A61H2201/5028 OR A61H2201/5035 OR A61H2201/5043 OR A61H2201/5048 OR A61H2201/5082 OR A61H2205/02 OR A61H2205/022 OR A61H2205/04 OR A61H2205/062 OR A61H2205/065 OR A61H2205/081 OR A61H2205/10 OR A61H2205/12 OR A61H2230/065 OR A61H2230/605 OR A61H2230/655)) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] | 41229 | 30-Mar-17 |
| L49 | TACD:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim* OR electrodes) WS (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol OR train OR pulses OR frequency OR HZ)) AND (wave_forms OR waves OR wave_shapes))  | 1647  | 30-Mar-17 |
| L48 | TAC:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim* OR electrodes) WS (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND  | 0     | 30-Mar-17 |

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|     | ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND (wave_forms OR waves OR wave_shapes))   |     |           |
| L47 | TA:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim* OR electrodes) WS (re_position* OR re_adust* OR (distance WD1 between) OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND (wave_forms OR waves OR wave_shapes))                            | 0   | 30-Mar-17 |
| L46 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) W2 (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) ))) AND (( impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT (L25 OR L20 OR L37) AND PBC:(US OR EU OR WO OR GB OR CA) AND PBY:[1900 to 2016] | 49  | 30-Mar-17 |
| L45 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) W2 (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) ))) AND (( impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT (L25 OR L20 OR L37)   | 60  | 30-Mar-17 |
| L44 | TACD:(((stimulat* OR neuro_stim*) W5 (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) ))) AND (( impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT (L25 OR L20 OR L37)   | 101 | 30-Mar-17 |
| L43 | TACD:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) ))) AND (( impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT (L25 OR L20 OR L37)   | 129 | 30-Mar-17 |
| L42 | TACD:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) ))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT   | 174 | 30-Mar-17 |

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|-----|---|-----|-----------|
|     | (L25 OR L20 OR L37)   |     |           |
| L41 | TACD:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT (L25 OR L20 OR L37)   | 226 | 30-Mar-17 |
| L40 | TAC:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes))) NOT (L25 OR L20 OR L37)  | 0   | 30-Mar-17 |
| L39 | TA:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes)))<br><br>NOT (L25 OR L20 OR L37)  | 0   | 30-Mar-17 |
| L38 | TA:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp OR brain OR facial OR face OR jaw OR mandible)) AND ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND (("impedances" OR (impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR waves OR wave_shapes)))<br><br>NOT (L25 OR L20 OR L37)   | 0   | 30-Mar-17 |
| L37 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone) AND (("impedances" WS ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WP (wave_forms OR wave_shapes))) | 5   | 30-Mar-17 |

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|-----|--|---|-----------|
|     | NOT (L25 OR L20)   |   |           |
| L36 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone) AND ((impedance WS (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WS ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WP (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L35 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR micro_controller OR (control W1 (device OR unit OR circuit OR module OR panel)) OR computer OR (computing WD1 device) OR processor OR microprocessor OR CPU OR PC OR workstation OR laptop OR (processing WD1 (module OR device)) OR minicomputer OR (smart WD1 phone) OR (cell* WD1 phone) OR smart_phone) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WS ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WP (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L34 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WS ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WP (wave_forms OR wave_shapes))) NOT (L25 OR L20)   | 0 | 30-Mar-17 |
| L33 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WS ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR  | 0 | 30-Mar-17 |



|     |  |   |           |
|-----|--|---|-----------|
|     | regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20)   |   |           |
| L32 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device)))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L31 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device)))) AND ((impedance W4 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L30 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device)))) AND ((impedance W3 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L29 | TACD:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device)))) AND ((impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L28 | TAC:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device)))) AND ((impedance W2 (second OR third OR 2nd OR 3rd  | 0 | 30-Mar-17 |

|     |  |   |           |
|-----|--|---|-----------|
|     | OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20)   |   |           |
| L27 | TA:(((stimulat* OR neuro_stim*) WS (skin OR epidermal* OR dermal* OR percutaneous* OR cutaneous* OR sub_cutaneous* OR dermis OR (stratum WD1 corneum) OR transdermal*) OR dental OR teeth OR neck OR throat OR larynx OR (vocal WD1 cords) OR vagus OR vagal OR medulla OR pons) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT (L25 OR L20) | 0 | 30-Mar-17 |
| L26 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp OR brain)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance WS (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND ((stimulat* OR neuro_stim*) AND (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) AND (wave_forms OR wave_shapes))) NOT (L25 OR L20)   | 0 | 30-Mar-17 |
| L25 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp OR brain)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND ((stimulat* OR neuro_stim*) AND (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) AND (wave_forms OR wave_shapes))) NOT L20  | 3 | 30-Mar-17 |
| L24 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR movable OR translocat*))) AND ((stimulat* OR neuro_stim*) AND (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) AND (wave_forms OR wave_shapes))) NOT L20   | 0 | 30-Mar-17 |
| L23 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate))) AND ((stimulat* OR neuro_stim*) AND (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) AND (wave_forms OR wave_shapes))) NOT L20  | 0 | 30-Mar-17 |
| L22 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR   | 0 | 30-Mar-17 |

|     |   |   |           |
|-----|---|---|-----------|
|     | device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) AND (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WP (wave_forms OR wave_shapes))) NOT L20  |   |           |
| L21 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) AND (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) NOT L20 | 0 | 30-Mar-17 |
| L20 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) WP (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))          | 1 | 30-Mar-17 |
| L19 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) WS (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))          | 1 | 30-Mar-17 |
| L18 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W9 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))          | 0 | 30-Mar-17 |
| L17 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W8 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))          | 0 | 30-Mar-17 |
| L16 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W7 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))          | 0 | 30-Mar-17 |

|     |   |   |           |
|-----|---|---|-----------|
| L15 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W6 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))) | 0 | 30-Mar-17 |
| L14 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) AND (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))) | 0 | 30-Mar-17 |
| L13 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) WP (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))))  | 0 | 30-Mar-17 |
| L12 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) W10 (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))) | 0 | 30-Mar-17 |
| L11 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) WP ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))))  | 0 | 30-Mar-17 |
| L10 | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W5 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))) | 0 | 30-Mar-17 |
| L9  | TAC:(((stimulat* OR neuro_stim*) AND (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))) | 0 | 30-Mar-17 |

|    |   |    |           |
|----|---|----|-----------|
| L8 | TAC:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes))) | 0  | 30-Mar-17 |
| L7 | TA:(((stimulat* OR neuro_stim*) WS (head OR cranium OR cranial OR scalp)) AND (controller OR (control WD1 (unit OR module OR device))) AND ((impedance W2 (second OR third OR 2nd OR 3rd OR values OR measures OR measurements OR indices)) W10 ((stimulat* OR neuro_stim*) WS (re_position* OR re_adust* OR move OR (adjust* W2 (position OR location) OR moving OR translocate)))) AND ((stimulat* OR neuro_stim*) W5 (paradigm OR regime OR protocol)) AND ((stimulat* OR neuro_stim*) WS (wave_forms OR wave_shapes)))  | 0  | 30-Mar-17 |
| L6 | INV:((WINGEIER W3 Brett) OR (RAZEK W3 Shawn) OR (BABCOCK W3 Kevin) OR (FINEBERG W3 Alan)) AND TAC:(impedance ) NOT L5   | 8  | 30-Mar-17 |
| L5 | INV:((WINGEIER W3 Brett) OR (RAZEK W3 Shawn) OR (BABCOCK W3 Kevin) OR (FINEBERG W3 Alan)) AND TAC:(impedance AND stimulation)   | 8  | 30-Mar-17 |
| L4 | INV:((WINGEIER W3 Brett) OR (RAZEK W3 Shawn) OR (BABCOCK W3 Kevin) OR (FINEBERG W3 Alan)) AND TAC:(impedance)   | 16 | 30-Mar-17 |
| L3 | CAAN:(Halo) AND TAC:(impedance)   | 4  | 30-Mar-17 |
| L2 | CAAN:(Halo_Neuro) AND TAC:(impedance)   | 0  | 30-Mar-17 |
| L1 | CAAN:(Halo_Neuro)   | 16 | 30-Mar-17 |

### Google Patents: 30 March, 2017

- stimulation (patient OR user) impedance
- stimulation (patient OR user) impedance electrodes
- stimulation (patient OR user) impedance device electrodes (cranial OR head OR scalp)
- stimulation (patient OR user) impedance (3rd OR third) device electrodes (adjust OR re-position OR distance)
- stimulation (patient OR user) impedance (3rd OR third) device electrodes (adjust OR re-position OR distance) (cranial OR head OR scalp)
- stimulation (patient OR user) impedance (3rd OR third) device electrodes (adjust OR re-position OR distance) (cranial OR head OR scalp) controller

### Non-Patent Literature (NPL) Search Strategy/Results:

### Google / Google Scholar: 30 March, 2017

- stimulation (patient OR user) impedance
- stimulation (patient OR user) impedance electrodes
- stimulation (patient OR user) impedance device electrodes (cranial OR head OR scalp)
- stimulation (patient OR user) impedance (3rd OR third) device electrodes (adjust OR re-position OR distance)
- stimulation (patient OR user) impedance (3rd OR third) device electrodes (adjust OR re-position OR distance) (cranial OR head OR scalp)
- stimulation (patient OR user) impedance (3rd OR third) device electrodes (adjust OR re-position OR distance) (cranial OR head OR scalp) controller

**EBSCO: 30 March, 2017**

| Search ID# | Search Terms   | Results |
|------------|--|---------|
| S7         | AB stimulation W2 scalp AND impedance AND controller | 1       |
| S6         | AB stimulation W2 scalp AND impedance                | 12      |
| S5         | AB stimulation W2 head AND impedance                 | 6       |
| S4         | AU FINEBERG AND impedance                            | 11      |
| S3         | AU BABCOCK AND impedance                             | 68      |
| S2         | AU RAZEK AND impedance                               | 23      |
| S1         | AU WINGEIER AND impedance                            | 3       |

**PubMed/Medline: 30 March, 2017**

| Search | Query   | Items found |
|--------|---|-------------|
| #4     | Search electrodes NEAR/5 (scalp OR head) AND impedance  | 2           |
| #3     | Search stimulation NEAR/5 (scalp OR head) AND impedance | 6           |
| #2     | Search stimulation NEAR/5 (scalp OR head)               | 249         |
| #1     | Search stimulation NEAR/5 head                          | 211         |