

SEARCH RECORD

Title of invention: ELECTRICAL TOMOGRAPHY FOR VERTICAL PROFILING

Application No: PCT/FI2017/050628

Priority application No:

- No priorities -

Minimum documentation searched (classification system followed by classification):

IPC: G01N, G01R, G01V

CPC: G01N, G01R, G01V

others:

Documentation searched other than minimum (FI,SE,NO,DK):

IPC: G01N27/07, G01N27/22, G01N33/28, G01R27/22

Electronic data bases consulted during the the novelty search:

EPODOC, EPO-Internal full-text databases, Full-text translation databases from Asian languages, WPIAP, PRH-Internal, XP3GPP, XPAIP, XPESP, XPETSI, XPI3E, XPIEE, XPIETF, XPIOP, XPIPCOM, XPJPEG, XPMISC, XPOAC, XPRD, XPTK, COMPDX, INSPEC, TDB, NPL

Language(s) in which the search was carried out:

English

Examiners consulted:

Verifying examiner Tomi Koskinen

Date	Examiner
07.02.2018	Ville Möttönen

The listing of the search history:

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? ..FI $ABS2
? /IN/PA ROCSOLE
** SS 5: Results 34
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** SS 6: Results 2.246
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** SS 7: Results 3.725.502
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** SS 8: Results 166
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** SS 6: Results 73
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** SS 7: Results 3
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** SS 8: Results 3
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** SS 10: Results 6.433
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** SS 12: Results 36
? G01N27/22/LOW/CN/IC
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** SS 15: Results 3.976
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** SS 18: Results 0
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? ..NOLIM
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/ICA/IC.FLD)
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** SS 3: Results 223
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** SS 23: Results 1
? *3 AND FI/PN {Filtered FI documents}

** SS 24: Results 0

? XFull Fulltext Non Patent Literature Search:
Mode Direct (Non Patent Literature Search)
English query: 'and (or LAAKKONEN, lehkoinen, mononen, voutilainen, ROCSOLE), (or tank+, vessel+, container+), (or probe, electrode+);'
English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''
English limit: None
English results: 437

? XFull Fulltext Non Patent Literature Search:
Mode Direct (Non Patent Literature Search)
English query: 'and (or LAAKKONEN, lehkoinen, mononen, voutilainen, ROCSOLE), (or tank+, vessel+, container+), (or probe, electrode+), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid);'
English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''
English limit: None
English results: 174

? XFull Fulltext Non Patent Literature Search:
Mode Direct (Non Patent Literature Search)
English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p (or probe, electrode+), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid);'
English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''
English limit: None
English results: 2602

? XFull Fulltext Non Patent Literature Search:
Mode Direct (Non Patent Literature Search)
English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p probe) p electrode+), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid);'
English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''
English limit: None
English results: 631

? XFull Fulltext Non Patent Literature Search:
Mode Direct (Non Patent Literature Search)
English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p probe) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid);'
English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''
English limit: None
English results: 271

? XFull Fulltext Non Patent Literature Search:

Mode Direct (Non Patent Literature Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p probe) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid), interface+, surface+;'

English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''

English limit: None

English results: 151

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Mode Direct (Non Patent Literature Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p probe) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid), interface+, surface+, vertical+, (or rope+, cable+, anchor+);'

English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''

English limit: None

English results: 44

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Mode Direct (Non Patent Literature Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p (probe 4w ((or within, inside, closed) 4w (or tank, volume, container, vessel)))) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid), interface+, surface+, vertical+, (or rope+, cable+, anchor+);'

English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''

English limit: None

English results: 1

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Mode Direct (Non Patent Literature Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p (probe 4w ((or within, inside, closed) 4w (or tank, volume, container, vessel)))) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid), vertical+, (or rope+, cable+, anchor+);'

English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''

English limit: None

English results: 2

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Mode Direct (Non Patent Literature Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p (probe 4w ((or within, inside, closed) 4w (or tank, volume, container, vessel)))) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid), vertical+;'

English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEG XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''

English limit: None

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Mode Direct (Non Patent Literature Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p (probe 4w ((or within, inside, closed) 4w (or tank, volume, container, vessel)))) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+), (or oil, moisture, water, liquid);'

English cluster: 'XP3GPP XPAIP XPESP XPETSI XPI3E XPIEE XPIETF XPIOP XPIPCOM XPJPEP XPMISC XPOAC XPRD XPTK' 'COMPDX INSPEC TDB NPL' ''

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English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA TXPJPOEB TXPKREA TXPKREB TXPKREU TXPKREY TXPMTCEA TXPMTCEU TXPMTCEA TXPMTCEB TXPMTCEC TXPMTCEU TXPMTET TXPMTTEU TXPMTTEW TXPMTTEY TXPMTJEA TXPMTJEB TXPMTJEU TXPMTJEY TXPMTKEA TXPMTKEB TXPMTKEU TXPMTKEY TXPUSE0A TXPUSE1A TXPUSEA TXPUSEB TXPW0EA TXPW0TEA WPIAP EPODOC'

English limit: None

English results: 0

German query: ''

German cluster: ''

German limit: None

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Mode Direct (Patent Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+)) p (probe 4w ((or within, inside, closed) 4w (or tank, volume, container, vessel)))) p electrode+), (or height, (measurement w level)), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+);'

English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA TXPJPOEB TXPKREA TXPKREB TXPKREU TXPKREY TXPMTCEA TXPMTCEU TXPMTCEA TXPMTCEB TXPMTCEC TXPMTCEU TXPMTET TXPMTTEU TXPMTTEW TXPMTTEY TXPMTJEA TXPMTJEB TXPMTJEU TXPMTJEY TXPMTKEA TXPMTKEB TXPMTKEU TXPMTKEY TXPUSE0A TXPUSE1A TXPUSEA TXPUSEB TXPW0EA TXPW0TEA WPIAP EPODOC'

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German query: ''

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French results: 0

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Mode Direct (Patent Search)

English query: 'and (((or (electrical w tomograph+), (electrical w capacitance w

tomograph+), ECT, (electrical w impedance w tomograph+), EIT, (electrical w resistance w tomograph+), ERT) p (or tank+, vessel+, container+) p (probe 4w ((or within, inside, closed) 4w (or tank, volume, container, vessel)))) p electrode+), (or admittivity, permittivity, conductivity, impedance, capacitance, tomograph+);'

English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA TXPJPOEB TXPKREA TXPKREB TXPKREU TXPKREY TXPMTCEA TXPMTCEU TXPMTEA TXPMTEB TXPMTTEC TXPMTTEE TXPMTET TXPMTTEU TXPMTTEW TXPMTTEY TXPMTJEA TXPMTJEB TXPMTJEU TXPMTJEY TXPMTKEA TXPMTKEB TXPMTKEU TXPMTKEY TXPUSE0A TXPUSE1A TXPUSEA TXPUSEB TXPW0EA TXPW0TEA WPIAP EPODOC'

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? XFull Create Set Patent Search:
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G01R27/22/LOW
EPODOC SS 2 Results: 142 /CCA/CUA G01N2027/222/LOW
8663 selected documents in the XFull set.
? XFull Fulltext Patent Search:
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English query: 'and (or (electric+ 2w tomograph+), (electric+ w capacit+ w tomograph+), ECT, (electric+ w impedance w tomograph+), EIT, (electric+ w resist+ w tomograph+), ERT), ((or tank+, vessel+, container+, reservoir+, cistern+) 5d (or probe, electrode+)), (or height+, level+, vertical+);'

English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA TXPJPOEB TXPKREA TXPKREB TXPKREU TXPKREY TXPMTCEA TXPMTCEU TXPMTEA TXPMTEB TXPMTTEC TXPMTTEE TXPMTET TXPMTTEU TXPMTTEW TXPMTTEY TXPMTJEA TXPMTJEB TXPMTJEU TXPMTJEY TXPMTKEA TXPMTKEB TXPMTKEU TXPMTKEY TXPUSE0A TXPUSE1A TXPUSEA TXPUSEB TXPW0EA TXPW0TEA WPIAP EPODOC'

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French results: 0

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English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA

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? XFull Create Set Patent Search:
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8663 documents selected in the XFull set (Patent Search)
English query: 'and (or (electric+ 2w tomograph+), (electric+ w capacit+ w tomograph+),
ECT, (electric+ w impedance w tomograph+), EIT, (electric+ w resist+ w tomograph+), ERT),
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French limit: 0
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? XFull Create Set Patent Search:
Set was not Amended.
? XFull Fulltext Patent Search:
8663 documents selected in the XFull set (Patent Search)
English query: 'and (or (electric+ 2w tomograph+), (electric+ w capacit+ w tomograph+),
ECT, (electric+ w impedance w tomograph+), EIT, (electric+ w resist+ w tomograph+), ERT),
(vertical+ 3d profile+);'
English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE
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TXPMTKEU TXPMTKEY TXPUSE0A TXPUSE1A TXPUSEA TXPUSEB TXPW0EA TXPW0TEA WPIAP EPODOC'
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German query: ''
German cluster: ''
German limit: 0
German results: 0
French query: ''
French cluster: ''
French limit: 0
French results: 0
? XFull Create Set Patent Search:
Set was not Amended.
? XFull Fulltext Patent Search:

SEARCH RECORD**Application No: PCT/FI2017/050628**

8663 documents selected in the XFull set (Patent Search)
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ECT, (electric+ w impedance w tomograph+), EIT, (electric+ w resist+ w tomograph+), ERT),
((or mov+, shift+, transfer+, lift+) 3d (or probe, electrode));'
English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE
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English limit: 19720
English results: 15
German query: ''
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? XFull Create Set Patent Search:
EPODOC SS 1 Results: 78816 /CCI/CUI G01N22/04/LOW
G01N27/02/LOW
G01N27/22/LOW
G01N27/60/LOW
G01N33/26/LOW
G01R27/00/LOW
G01V3/18/LOW
EPODOC SS 2 Results: 164802 /IC G01N22/04/LOW
G01N27/02/LOW
G01N27/22/LOW
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G01N33/26/LOW
G01R27/00/LOW
G01V3/18/LOW
180070 selected documents in the XFull set.
? XFull Fulltext Patent Search:
180070 documents selected in the XFull set (Patent Search)
English query: 'and (or (electric+ 2w tomograph+), (electric+ w capacit+ w tomograph+),
ECT, (electric+ w impedance w tomograph+), EIT, (electric+ w resist+ w tomograph+), ERT),
(((or probe+, element+, electrode+) 5d (or contaminat+, (foreign w matter), impurity,
pollutant, dirt)) 5d (or interface, surface)), (or tank+, vessel+, container+, reservoir+,
cistern+);'
English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE
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Mode Direct (Patent Search)
English query: 'and (or (electric+ 2w tomograph+), (electric+ w capacit+ w tomograph+),

ECT, (electric+ w impedance w tomograph+), EIT, (electric+ w resist+ w tomograph+), ERT),
(((or probe+, element+, electrode+) 5d (or contaminat+, (foreign w matter), impurity,
pollutant, dirt)) 5d (or interface, surface)), (or tank+, vessel+, container+, reservoir+,
cistern+), (or vertical+, profile+, height+, level+);'

English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE
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English limit: None

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G01N33/26/LOW

G01R27/00/LOW

G01V3/18/LOW

EPODOC SS 2 Results: 164802 /IC G01N22/04/LOW

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G01N27/60/LOW

G01N33/26/LOW

G01R27/00/LOW

G01V3/18/LOW

180070 selected documents in the XFull set.

? XFull Fulltext Patent Search:

180070 documents selected in the XFull set (Patent Search)

English query: 'and (or electrical+, conduct+, impedance+, admittan+), (((or probe+,
element+, electrode+) 5d (or contaminat+, (foreign w matter), impurity, pollutant, dirt))
5d (or interface, surface)) 7d (or effect, impact, influence)), (or tank+, vessel+,
container+, reservoir+, cistern+), (or vertical+, profile+, height+, level+);'

English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE
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4950 selected documents in the XFull set.

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English query: 'and (or electrical+, conduct+, impedance+, admittan+), (((or probet+, element+, electrode+) 5d (or contaminat+, (foreign w matter), impurity, pollutant, dirt)) 5d (or interface, surface)) 7d (or effect, impact, influence)), (or tank+, vessel+, container+, reservoir+, cistern+), (or vertical+, profile+, height+, level+);'

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English query: 'and (or electrical+, conduct+, impedance+, admittan+), (((or probet+, element+, electrode+) 5d (or contaminat+, (foreign w matter), impurity, pollutant, dirt)) 5d (or interface, surface)) 7d (or effect, impact, influence)), (or tank+, vessel+, container+, reservoir+, cistern+), (or vertical+, profile+, height+, level+);'

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English query: 'and (or electrical+, conduct+, impedance+, admittan+), (((or probet+, element+, electrode+) 7d (or contaminat+, (foreign w matter), impurity, pollutant, dirt)) 7d (or interface, surface)) 7d (or effect, impact, influence)), (or tank+, vessel+, container+, reservoir+, cistern+), (or vertical+, profile+, height+, level+);'

English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA TXPJPOEB TXPKREA TXPKREB TXPKREU TXPKREY TXPMTCEA TXPMTCEU TXPMTEA TXPMTEB TXPMTEC TXPMTEE TXPMTET TXPMTU TXPMTW TXPMTY TXPMTJEA TXPMTJEB TXPMTJEU TXPMTJFY TXPMTKEA TXPMTKEB TXPMTKEU TXPMTKEY TXPUSE0A TXPUSE1A TXPUSEA TXPUSEB TXPW0EA TXPW0EA WPIAP EPODOC'

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French query: ''

French cluster: ''

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English cluster: 'TCM TXPCNEA TXPCNEB TXPCNEC TXPCNEU TXPCNEY TXPEA TXPEB TXPEC TXPEE TXPEF TXPEH TXPEI TXPEP TXPEPEA TXPEPEB TXPES TXPEU TXPEY TXPJPEA TXPJPEB TXPJPOEA TXPJPOEB TXPKREA TXPKREB TXPKREU TXPKREY TXPMTCEA TXPMTCEU TXPMTEA TXPMTEB TXPMTEC TXPMTEE

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effect, impact, influence)), (or tank+, vessel+, container+, reservoir+, cistern+), (or
vertical+, profile+, height+, level+);'
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"WO2017203095"/PN

SEARCH RECORD**Application No: PCT/FI2017/050628**

50 PN Documents found
16 NPL Documents found
including 31 restricted family members
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Other Information: