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(54) Title: WET GAS MEASUREMENT

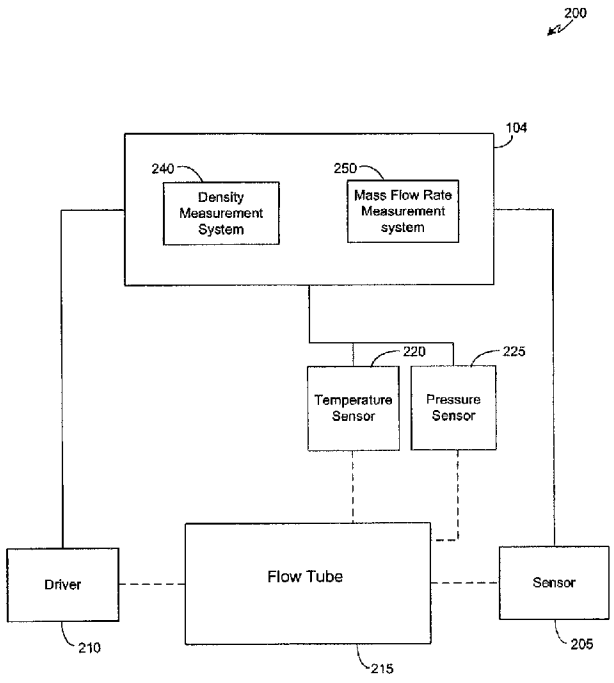

FIG. 2

(57) Abstract: A first apparent property of a multi-phase process fluid is determined based on the motion of the vibratable flowtube. One or more apparent intermediate values associated with the process fluid are determined based on the first apparent property. One or more corrected intermediate values are determined based on a mapping between the apparent intermediate values and the corrected intermediate values. One or more phase-specific properties of the multi-phase process fluid are determined based on the corrected intermediate values. A measure of wetness of the multi-phase process fluid is determined based on the one or more phase-specific properties that are determined based on the corrected intermediate values. A second apparent property of the multi-phase process fluid is determined using the differential pressure flowmeter. A phase-specific property of a phase of the multi-phase process fluid is determined based on the measure of wetness and the second apparent property.

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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, 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).

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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G01F 1/84 (2009.01)
USPC - 73/861.356
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) -G01F 1/84 (2009.01)
USPC - 73/861.356

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC- 73/861.351, 861.354-356 (text search - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST(USPT,PGPB,EPAB,JPAB); Google Patent; Google Scholar. Search Terms: vibratable, flowtube, "flow tube", flow, tube, differential, pressure, meter, flowmeter, "flow meter", neural, network, volume, fraction, wetness, apparent, property, bulk, density, lockart, martinelli, and parameter.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0284237 A1 (Henry et al) 29 December 2005 (29.12.2005) Entire document, especially para [0006], [0008]- [0026], [0029], [0059], [0089]-[0091], [0275], [0429]-[0431], [0509], [0510] and [0515]-[0536]	1-30
Y	US 2005/0193832 A1 (Tombs et al.) 08 September 2005 (08.09.2005) Entire document, especially para [0006]- [0014] and [0019], [0067], [0069], [0131] -[0134], [0178], [0190], [0222]-[0229], [0429] - [0431]	1-30
Y	US 2005/0229716 A1 (Unsworth et al.) 20 October 2005 (20.10.2005) Entire document, especially Fig. 7-11 and para [0003], [0013], [0033]-[0037], [0069], [0079] and [0097]-[0101], [0125], [0126]-[0128], and [0144].	1-30
Y	US 6,422,092 B1 (Morrison et al.) 23 July 2002 (23.07.2002) Entire document, especially, col 1, ln 23-42; col 6, ln 50 to col 7, ln 20.	1-30
Y	Falcone, "Critical review of wet gas definitions", 24th International North Sea Flow Measurement Workshop Presentation (online) pg 5, 27 October 2006 (27.10.2006) [retrieved on 24 May 2009 (24.05.2009)], Retrieved from the Internet: <URL: http://energytechnologycentre.com/upload/pdfs/NSFMW06a.pdf	9, 19 and 24
A	US 2004/0069069 A1 (Gysling et al.) 15 April 2004 (15.04.2004), entire document	1-30

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"A" document defining the general state of the art which is not considered to be of particular relevance
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"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
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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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

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