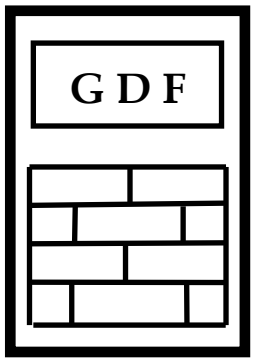
GDF DATA BANKS BULLETIN

THE 20th ANNIVERSARY



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Interaction of quartz crystals with bio-fields. I. Preliminary experiments on commercial quartz oscillators.

New vision on material science opens a new era in the knowledge of Life.

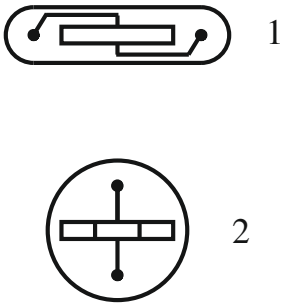
Recent experiments have revealed the interaction of human mental field (HMF) and in general of bio-fields with a specific coherent composite structure of water [1] and aqueous solutions of electrolytes [2, 3]. This specific structure consists in the so called amorphous-crystalline coupling initially discovered and thoroughly studied in polymers [4] and recently established to be in good interaction with bio-fields. In view to optimize this interaction a spatial coherent distribution must be realized as in the oriented polymers as fishing lines and cold rolled films and in steady-state flow of electrolyte aqueous solutions [2, 3]. These results substantiate once again the old idea according to which all matter has polymeric structure [5].This idea continues the initial idea of "super-molecular structures" independently emitted by Russian [6] and Stuttgart [7] schools on polymers and brilliantly supported by calorimetric studies of Wunderlich's team [8].
Electric and/or magnetic fields applied on a specimen can create the above mentioned specific composite structure able to interact with bio-fields.
Single crystals have already the spatial structural coherency, so they are perfect samples for such experiments. Additionally, quartz crystals extensively used as oscillators in electronic circuits have carefully deposited on them electrodes in view to apply an electric field.
In the present note and several next series, results on time evolution of electric current at constant electric field applied on a series of commercial quartz oscillators will be presented. The time dependence on long term of the classic voltage-current characteristic will reveal subtle structure changes as a function of the variation of surrounding bio-fields during hours of the day (HOD) as it was established in previous experiments.

Experimental: Figure 1 presents the internal schematics and structures of two kinds of commercial quartz resonators considered in the present series of measurements. Figure 2 shows the simplified schematics of dc measurements performed. Value of Uref is adjusted as the Udc be as close as possible to zero.Values of Udc are measured by mean of Picolog ADC-20 data logger from Picotech on the full scale of ±1250 mV with theoretical resolution of 20 bits (2.5 V/(2^20 - 1) = 2.38 μV), sampling time of 1 minute and simultaneously using 4 channels. Stability of supply voltages, Uref, shielding effect and other experimental sources of errors are minimized as they were identified in previous experiments [1-3]. Additionally, the effect of orientation in Earth's magnetic field has been studied.
Measurements considered in this note were performed every day continuously on the time period of 17 February and 9 April 2016. Eventual changes were made during 10-15 minutes before middle of the night. Data saved every 24 hours of measurements were retrieved in Excel/Windows®.

Results and discussions: Figures 3-5 and 9 show a selection of the initial results on the two types of quartz resonators (A=12.2), ceramic resonator (A=12.2) and 2.2 nF ceramic capacitor (A=50.2), respectively. It was observed systematically that all tested components show the same Udc(HOD) variation, specific for each day, excepting the capacitor. For a better evidence of the pattern of these variations, the average (<Udc>) and standard deviation values were calculated over each 30 minutes and these are represented in the associated Figures 6-8 and 12 located under each above mentioned Figures.
Differences between all tested resonators can be further evidenced by the following value:

$$<Udc>o = <Udc> - \text{average}(Udc) \quad (1)$$

where average(Udc) was performed over each 24 hour data.



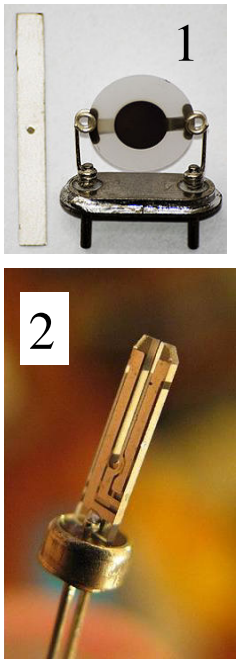


Figure 1. Top view of cross-section in the two quartz crystal packages:
1—normal/classic size (disk shape);
2—small and medium size watch quartz (diapason shape) (Q-ws and Q-wm, respectively).

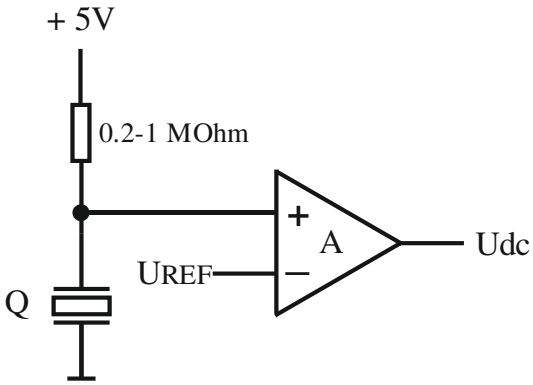


Figure2. Simplified schematics of differential measurement of dc electric conductivity in quartz crystals.(Q) by an operational amplifier with amplification A.

Figures 10, 11, 13 and 14 show a selection of <Udco>o(HOD) variations for the three types of resonators. Figure 10 shows the significances of these variations in connection with the bio-fields variations on HOD, especially during the day time. It can observe first that all have the same pattern of variation and Q-ws systematically shows greatest variations at the same amplification (A) due by its small mass comparing to normal size (Figure 1).

Concluding remarks

Udc is proportional with volume dc electric resistance of tested resonators and appears to be sensitive to bio-fields variations similar with ac electric resistance of electrolyte aqueous solutions.

Orientation of resonators in respect to the Earth's magnetic field appears to not influence these correlations.

The next series of experiments will progressively optimize the measuring conditions in view to better evidence these correlations.

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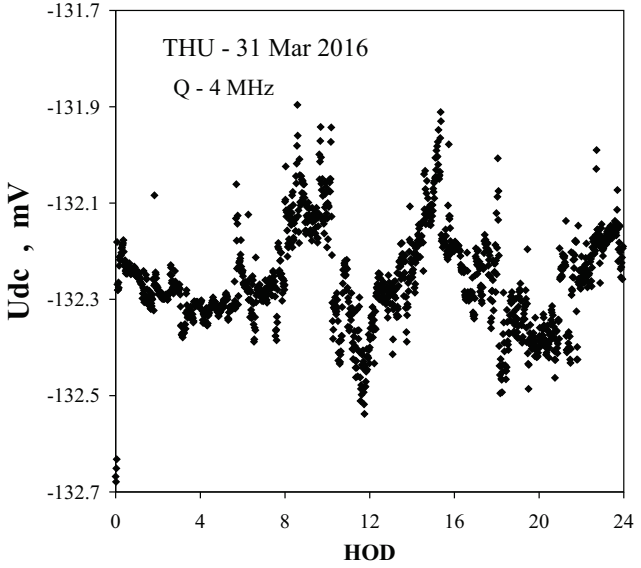
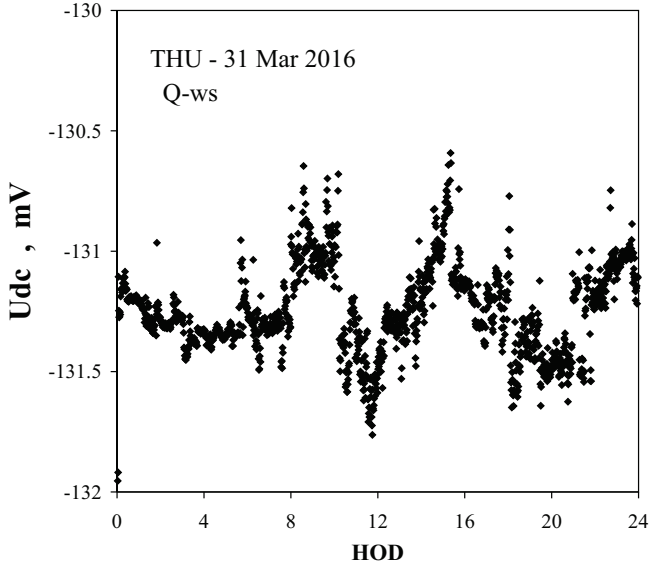


Figure 3.



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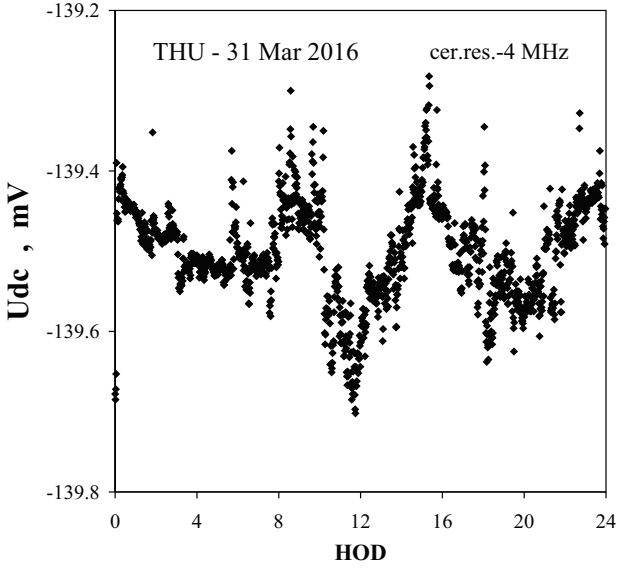

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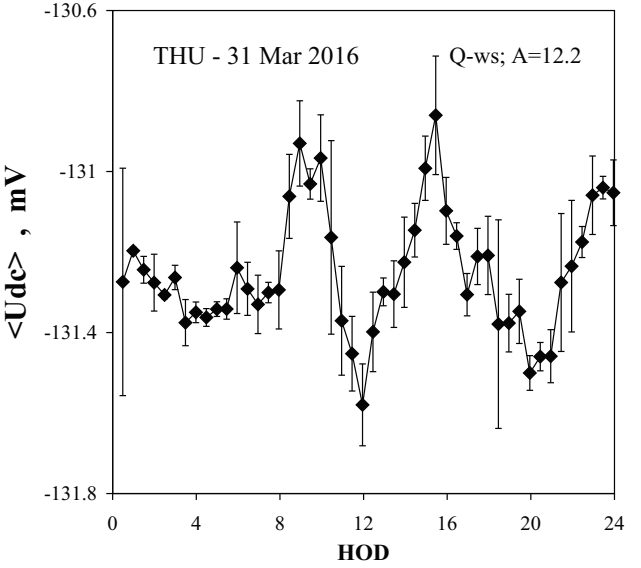

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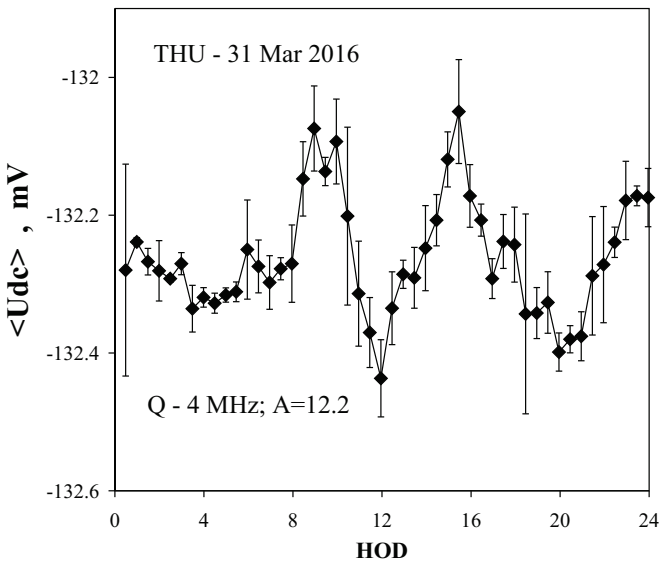

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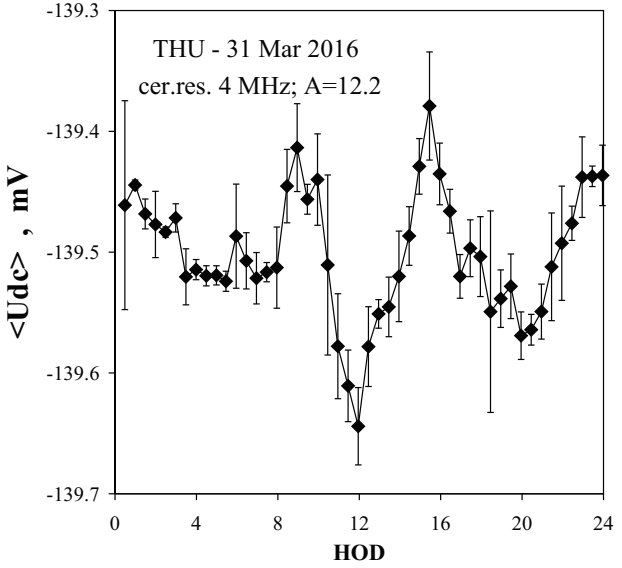

Figure 8.

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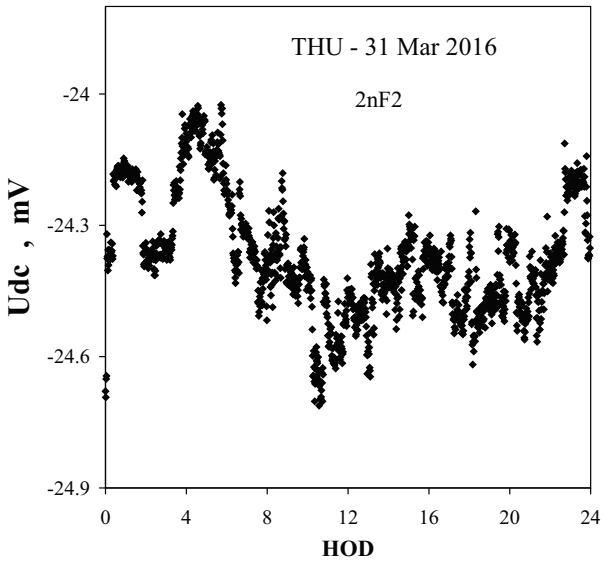

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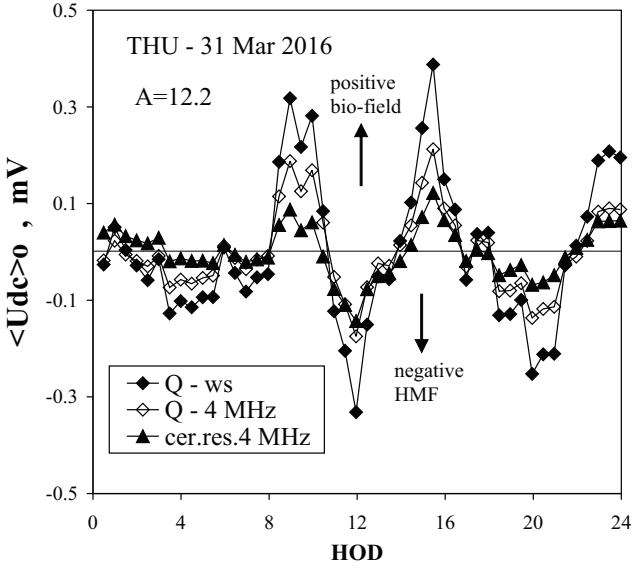

Figure 10.

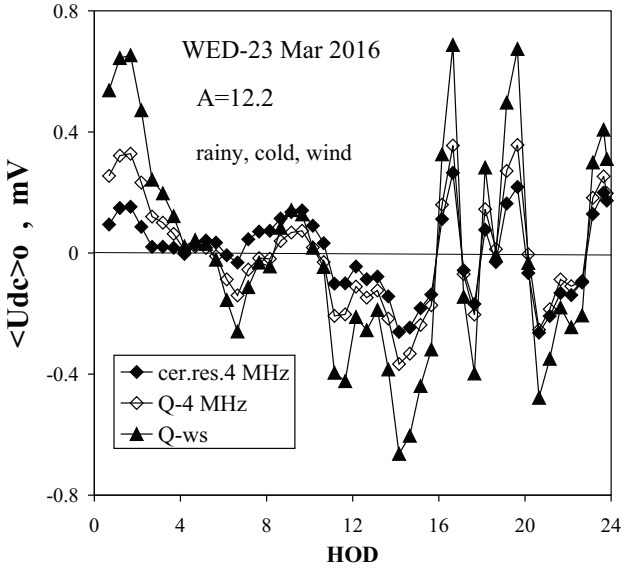

Figure 11.

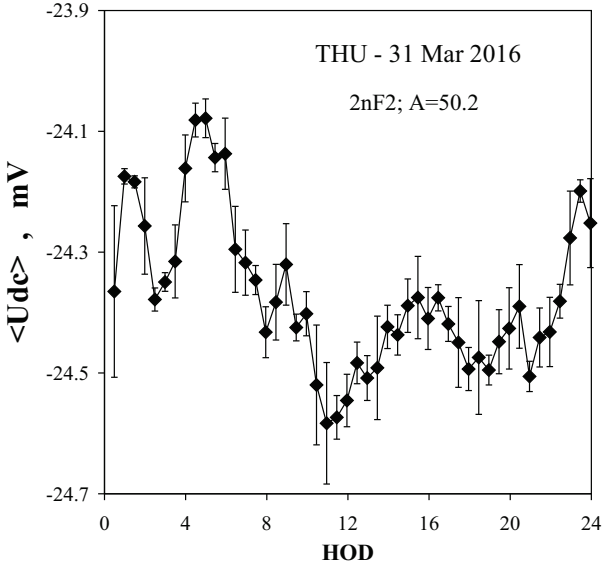

Figure 12.

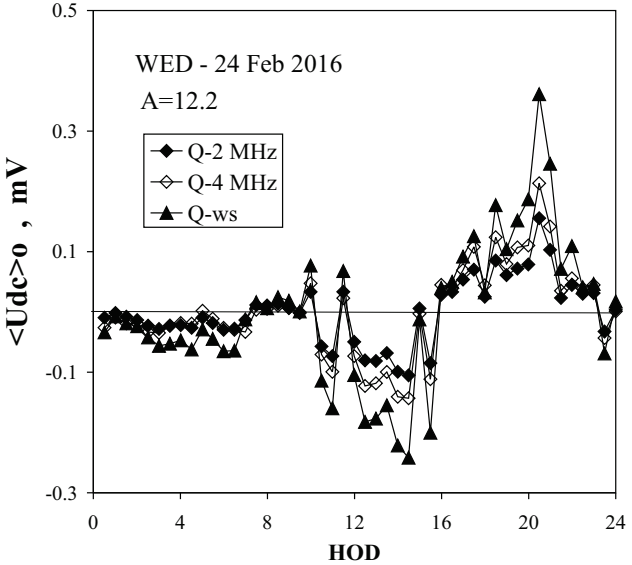

Figure 13.

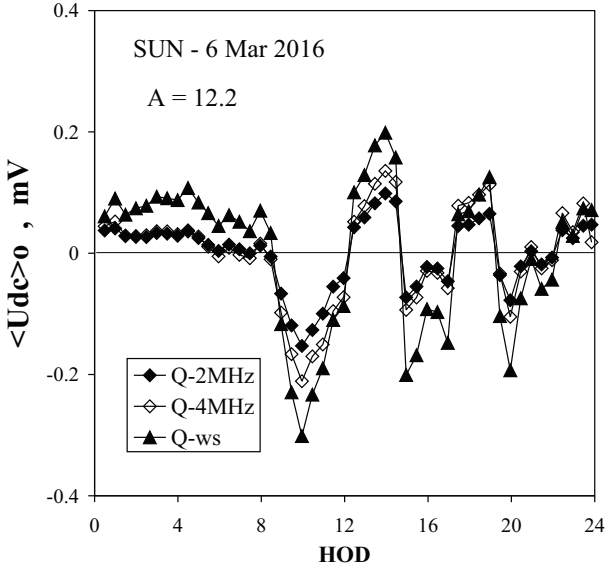

Figure 14.

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Previous issues of GDF DATABANKS BULLETIN

Year	VOL	NO	Content (titles)	$*)
1997	1	1	Editorial: Databanks – the compulsory language. LOGKOW – a Databank of evaluated octanol-water partition coefficients (James Sangster). Solubility behavior introducing topoenergetic working principles. Comments on 1-octanol-water partition of several n-alkane related series.	F
1997	1	2	Guide of good practice in metrology (Romanian)	AFI
1998	2	1	Editorial: socio-psychological implications in creation and utilization of a databank (Ioan-Bradu Iamandescu); Behavior in vapor-liquid equilibria (VLE): I. Structural aspects; Behavior in vapor-liquid equilibria: II. Several structures in databanks; Symposium on VDC-4 held on 30 October 1997 at Lubrifin-SA, Brasov (Romania).	F
1998	2	2	Practical course of metrology (Romanian)	AFI
1998	2	3	DIFFUTOR-01: Thermally driven diffusion in pure metals	AFI
1998	2	4	VAPORSAT-01: Databanks of thermally driven VLE. The first 100 simple molecules	AFI
1999	3	1	Editorial: New trends in material science: nanostructures (Dan Donescu) DIFFUTOR: Databanks of diffusion kinetics. VAPORSAT: Databanks of vapor-liquid separation kinetics.	F
1999	3	2	Discussions on Applied Metrology	AFI
2000	4	1	Editorial: Laboratory accreditation and inter-laboratory comparisons (Virgil Badescu) Doctoral Theses – important data banks. GDF intends to open new series of experiments on thermo-physical properties. Some comments on uncertainty: global budget and DFT analysis. Events: The 9th International Metrology Congress, Bordeaux, France, 18-21 October 1999.	F
2000	4	2	Measurement and Calibration.	AFI
2001	5	1	Editorial: Metrology ensures moral and technological progress. Topoenergetic aspects of amorphous-crystalline coupling. I. Composite behavior of water and aqueous solutions (paper presented at nanotubes and Nanostructures 2001, LNF, Frascati, Rome Italy, 17-27 October 2001). Events: Nanotubes and nanostructures 2000.School and workshop, 24 September – 4 October 2000, Cagliari, Italy.	F
2001	5	2	Editorial: Viscosity – a symptomatic problem of actual metrology. Visco-Dens Calorimeter: general features on density and viscosity measurements. New vision on the calibration of thermometers: ISOCALT® MOSATOR: Topoenergetic databanks on molten salts properties driven by temperature and composition.	F
2002	6	1	MOSATOR-01: Topoenergetic databanks for one component molten salts; thermally driven viscosity and electrical conductance.	AFI
2002	6	2	Editorial: HuPoTest - Operator calibration or temporal scale psychic test. MOSATOR: topoenergetic databanks of one component molten salts; thermally driven viscosity and electrical conductance.	F
2002	6	3	Editorial: Quo vadis Earth experiment? ISOCALT® : Report on metrological tests	F
2003	7	1	Editorial: Time – an instrument of the selfish thinking. 1st NOTE: Homoeopathy: upon some efficient physical tests revealing structural modifications of water and aqueous solutions. I. Mixing experiments.	F
2004	8	1	Metrological verification and calibration of thermometers using thermostats type ISOCALT® 21/70/2. Metrological verification and calibration of thermometers using thermostats type ISOCALT® 2.2R.	F
2004	8	2	Aspects of correct measurements of temperature. I. measurement of a fixed point according to ITS-90. Physics and Homoeopathy: some physical requirements for homoeopathic	F

			practice.(Plenary lecture at the 19th SRH National Congress, 21-22 September 2004, Bucharest, Romania)	
2005	9	1	AWARD for ISOCALT® at the International Fair TIB-2004, October 2004, Bucharest. ISOCALT® 3/70/21 was awarded in a selection of 20 products by a commission of experts from the Polytechnic University of Bucharest. Upon some aspects of temperature measurements. (12th International Metrology Congress, 20-23 June 2005, Lyon, France)	F
2005	9	2	A new technique for temperature measurement and calibration. National Society of Measurements (NSM). Important warning for T-calibrator users: MSA has chose metrology well calibrators from Fluke (Hart Scientific).	F
2005	9	3	Universal representation of Cancer Diseases. 1. First sight on NSW-2003 report. Universal representation of Cancer Diseases. 2. UK cancer registrations on 1999-2002. Vital Potential can estimate our predisposition for cancer diseases.	F
2006	10	1	NTC – thermistors -1	AFI
2007	11	1	HuPoTest - 40 years of continuous research Basic rules for preventing and vanishing cancer diseases Climate change = change of mentality Hot nuclear fusion – a project of actual mentality	F
2007	11	2	MT – Introduction to Mental Technology HuPoTest – general procedure, assignments of results, specimen of complete test, order and obtain your complete HuPoTest report	F
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2009	13	1	Proposal for interlaboratory comparisons. Calibration of NTC-thermistors (The 14th International Metrology Congress, Paris, France, 22-25 June 2009).	F
2009	13	2	Sudoku – un algoritm de rezolvare. (Sudoku – an algorithm for solution).	AFI
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2013	17	10	1. Procedure for defining standard liquids for viscosity based on topoenergetic principles. 2. Topological aspects of flow and deformation in polymer composites, The VIII-th International Congress on Rheology, 1-5 September 1980, Naples, Italy, pp. 375-376. 3. Universal representation of flow behavior based on topoenergetic principles, The IX-th International Congress on Rheology, 8-13 October 1984, Accapulco, Gro. Mexico, pp.369-376. 4. Comments on "Universal representation of flow behavior based on topoenergetic principles", The IX-th International Congress on Rheology, 8-13 October 1984, Accapulco, Gro. Mexico, pp. 369-376. 5. Open letter to BRML and INM.	F
2014	18	1	Adiabatic calorimeter as high accuracy T-calibrator	F
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2015	19	4	High Resolution Mixing Calorimetry (HRMC) redivivus. 2. Structure developing of aqueous solutions by mixing experiments.	F
2015	19	5	High Resolution Mixing Calorimetry (HRMC) redivivus. 3. Calibration	F
2015	19	6	Evidence of human mental field by ac-electric conductivity in electrolyte solutions. 1. Bio-energy.	F
2015	19	7	High resolution mixing calorimetry redivivus.IV. Specific heat of crystalline phase of water. WPA2015: International Congress of World Psychiatric Association,Primary care mental health: innovation and transdisciplinarity, Bucharest, 24-27 June 2015, ROMANIA	F
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2016	20	2	Structural aspects revealed by topoenergetic view on ac electric conductivity in HCl/(water + organic solvent)	F
2016	20	3	Stability of amorphous-crystalline coupling in electrolyte aqueous solutions in relation to interaction with bio-fields	F
2016	20	4	Efficient, simple and cheap outdoor extension of exhausting system using Bernoulli and thermal convection effects applied for air forced boilers on natural gas	F
2016	20	5	Good quality home made soap in high efficient conditions	F

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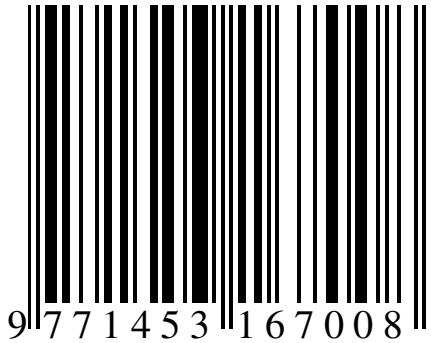

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