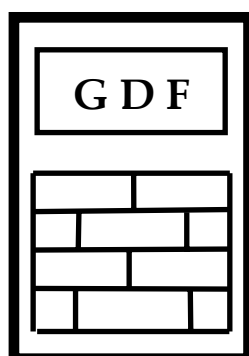


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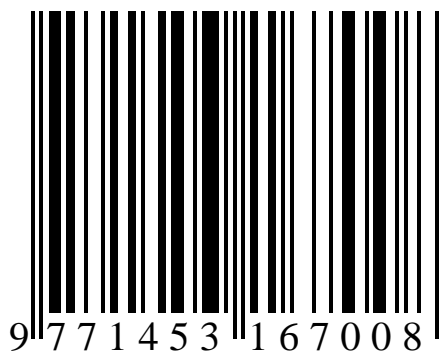
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13 + 3 pages

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Flight QF30 and even more...

“Le XXI^eme siècle sera spirituel ou ne sera pas” (Andre Malraux)

Recent incident (Friday, 25th July 2008) occurred in the flight QF30 of the Australian airline company Qantas (from London to Melbourne) has revealed once again some important aspects of flight safety. Classical technical analysis of this bizarre break in the fuselage occurred at 29 000 feet height will establish certainly for an official and public report some mechanical drawbacks, but as it happened in most of similar cases technicians will keep quiet about their deep reserves about how could happen the event. This was not the effect of an internal explosion experts already said. It appears clear even for profanes, so as much for passengers, that this happened as an impact with an external object, anyway as an external action. In fact there was no trace of a material object.

The most important think is that the plane was finally well controlled, safely landed and passengers disembarked without any other incidents.

However, such events existed and certainly will exist, unfortunately most of them not so lucky.

It is time to remind about some important space programs. Apollo program was abruptly interrupted and no continuation of study of the Moon. Official news and statements about aliens found on the Moon have appeared in the last time. The consequence is that terrestrial man is not allowed on the Moon. He is not properly prepared for such co-habitation?

Subsequently, NASA has started its new series of space shuttles around and close to the Earth, but the tragic accident of Challenger on 28th January 1986 with 7 crew members (5 men and 2 women) has imposed the immediate suspension of this program. A careful technical analysis of this accident has followed for long time. The famous physicist Richard Feynman was also involved in there and discovered that an O-ring did not work properly. However, Feynman's report was neglected and the program was resumed successfully until the next crash of Columbia space shuttle on 1st February 2003. By “coincidence” this one had also 7 crew members, 5 men and 2 women.

The problem is what NASA has found out during its analysis on Challenger crash which supported the continuation shortly of space shuttle program, even after the Columbia crash?

The main real cause of the success or failure of a flight is the coupling of crew mental state with gravitational field. It was explained in a recent book how this coupling works [1]. We can experience this coupling in our daily life by taking care on the time evolution of our actions. If our actions are activated by negative thoughts the results will affect us. Gravitational field is in some respects the propagation medium of our thoughts.

The resultant mental state of all crew and the nature of gravitational field where the journey occurs are the main aspects defining the success of space and plane

flights. For instance, bad mental state of one member in a crew of 7 was enough to fail the journey.

NASA has found this important result after a careful study of crew's conversation. Additionally, they got more information from other sources.

As a result of this, NASA has adopted and developed psychic tests in view to define as exactly as possible the mental state of selected crew.

Psychic tests, astrological analyses, consulting of clairvoyants are common procedures applied from long time to personnel invested in missions with high responsibilities.

However, the results are not hundred percent reliable and can be perturbed by many unpredictable factors. On the other hand, the evaluations in a limited time of the psychic state of large groups of people for particular flights need a highly accurate and rapid procedure. This appears to be similar to the weighing of each luggage in view to avoid the aircraft's overweight. The mental state of each passenger and crew will act as an additional mass specifically interacting with the gravitational field across the flight.

HuPoTest described in previous issues of this bulletin [2, 3] and in the above-mentioned book, seems to be very efficient for this purpose.

In view to avoid as much as possible plane accidents, it will become necessary, as airline companies to adopt such tests both for crew and all passengers in estimating and balancing of the resultant mental state for each journey. In addition, such tests should be extensively and intensively practiced on regular basis for mental training purpose.

It is also necessary as the building teams of aircrafts and spacecrafts to be also selected and controlled according to the same procedures, because all products memorize the manufacturer's thoughts, so that their operating behavior will depend on them. However, such psychic evaluations are more and more extensively applied in human resources. The main problem is their efficacy in defining this coupling effect.

[1] G. Dragan, *Time – the instrument of selfish thinking*, ISBN 973-0-03345-5 Bucharest 2004.

[2] GDF Databanks Bull., *HuPoTest – 40 years of continuous research*, 11(1), 2007.

[3] GDF Databanks Bull., *MT – introduction to Mental Technology; HuPoTest – general procedure, assignments of results, specimen of complete test, order and obtain your complete HuPoTest report*, 11(2), 2007.

28th July 2008

Temperature calibration of NTC-thermistors.

1. Preliminary results.

NTC-thermistors are materials whose electric resistance decreases in exponential manner with temperature. These are used as very sensitive, repeatable and reproducible temperature sensors especially on the range of 0 to +100 °C. Although this temperature range is the most present in human experience, its metrology is far to be well determined.

In a recent series of studies [1, 2] on commercial NTC-thermistors, it was established that the Universal representation of this variation evidenced important structural properties of these materials opening new horizons for new applications. One of this could be new temperature standards.

However, due the nonlinear variation with temperature, NTC-thermistors imply serious problems both with calibration and measurements.

In the present series devoted to their calibration the experimental data obtained are retrieved according to the following eqns:

Steinhart-Hart (SH): $1/T = A + B \cdot \ln(\theta) + C \cdot (\ln(\theta))^3$

Universal (U): $\ln(\theta) = N \cdot \ln(T - T_0) + M$

where T is temperature in K, θ is a measurable quantity proportional with the electric resistance of the specimen under calibration, (A, B, C) and (N, M, T_0) are parameters defining the specimen behavior according to the two eqns., respectively. It is important to mention that parameters (N, M, T_0) have deep structural significances according to the topoenergetic principles [1, 3].

In the present note the commercial NTC-thermistor coded as 30K6A (30 kOhm at 25 °C) produced by Betatherm is considered by comparing the data reported by manufacturer with our experimental data.

Data taken from the website www.betatherm.com are expressed by the ratio $\theta = R(T)/R(25)$, where R(T) and R(25) are the electric resistance at temperature T and 25 °C, respectively.

Experimental details of our measurements:

1. Experiments are performed on the range of 0 to +100 °C by using a constant current source of 10 μ A and measuring the voltage on the specimen, $\theta = U_{ms}$ in mV;
2. U_{ms} was measured directly (Gain=1) and through a precision amplifier (Gain = 11, OFFSET=0) by using a 4 digit voltmeter and 4 wire procedure.
3. ISOCALT® 21/70/2 dry bath with brass block modified for under ambient temperature was used as precision thermostat with stability under

0.01 °C/1 hr and measurements of radial and axial temperature gradients (up to 0.003 °C/25 mm)[4];

4. Diode digital thermometer (DDT) with 0.01 °C resolution was used as standard thermometer. This was calibrated several times before and during measurements with a SPRT (standard uncertainty under 0.01 °C) and a triple point cell of water. Measured temperatures are estimated by considering the linear regression of voltage resulted from the specific electronic circuit of DDT vs calibration temperature. Stability and standard uncertainty of DDT was under 0.01 °C.
5. The diode and NTC-thermistor are wrapped with copper wire as a cylinder approximately 6 mm and 25 mm in diameter and height, respectively. This assembly was fixed in the well of the brass block of the dry bath.

Experiments were performed by noting the T and U_{ms} as stable values at the last digit for 10-15 minutes. Each U_{ms}(T) point is obtained in approximately 1 hour.

Obtained results.

The results are presented in the Figures 1-5. The most important quantity considered for evaluation of these preliminary experiments is deviation function = T – T_{calc}, where T is the measured temperature and T_{calc} is the calculated temperature according to one of the above mentioned eqns.

Some aspects and conclusions of these results should be pointed out:

- (T-T_{calc}) has specific oscillatory variation with T mainly depending on the temperature range on which the eqns parameters are defined;
- Universal parameters are better defined and determine smaller deviation values when the temperature range is more extended;
- Improvements of measurements are necessary to make the results much more repeatable allow establishing the exact nature of this oscillatory behavior of deviation function. This appears to originate from the lack of good temperature standards on the range of 0 to +100 °C because a similar behavior was obtained for DDT by linear regression. New temperature standards are necessary by taking into account topoenergetic principles and possible redefinition of ITS 90.

[1] GDF Databanks Bull., *NTC-thermistors-1*, 10(1), 2006.

[2] GDF Databanks Bull., *TRESISTOR®-NTC-1- data bank of NTC-thermistors*, 11(3), 2007.

[3] GDF Databanks Bull., *Solubility behavior introducing topoenergetic working principles; Comments on 1-octanol-water partition of several n-alkane related series*, 1(1), 1997.

[4] GDF Databanks Bull., *A new technique for temperature measurement and calibration*, 9(2), 2005.

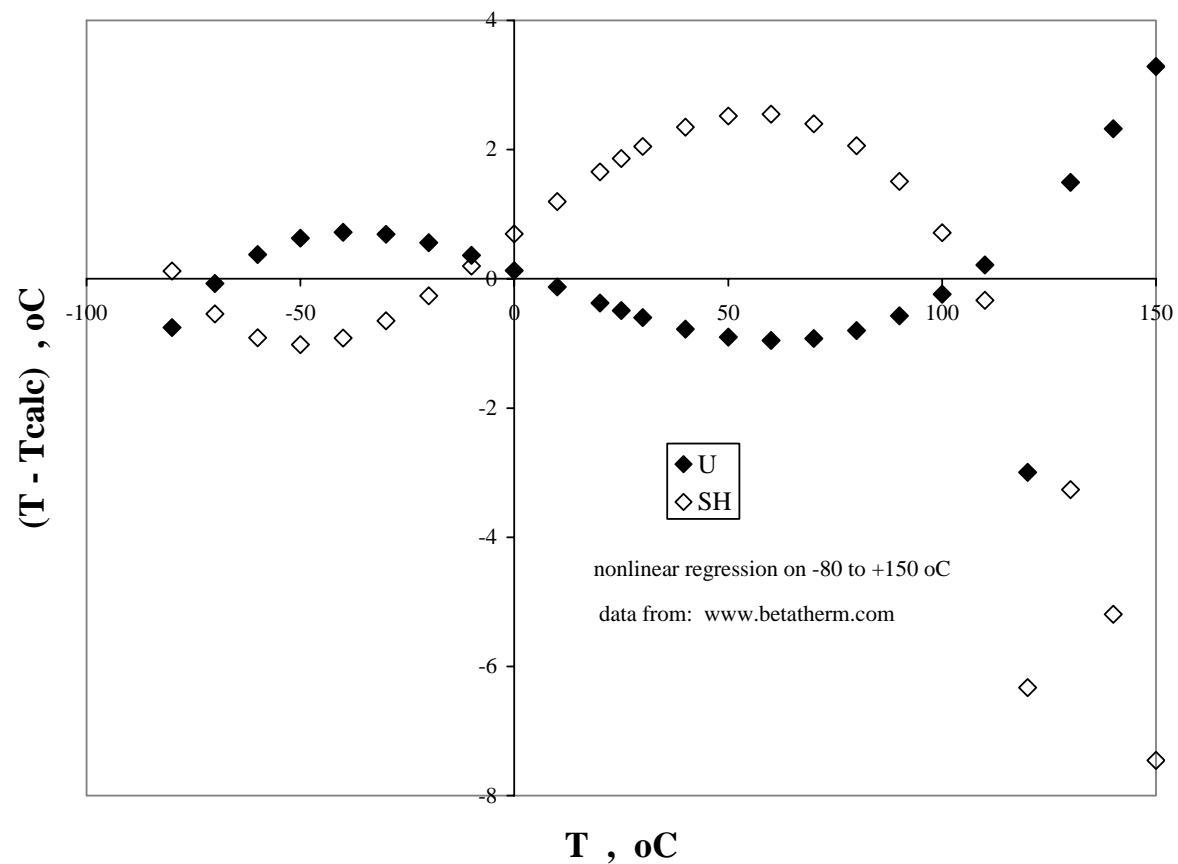


Figure 1.

Representation of deviations of experimental data reported by NTC-thermistor manufacturer for $(R(T)/R(25))$ from calculated values according to Universal (U) and Steinhart-Hart (SH) eqns by non-linear regression of all data.

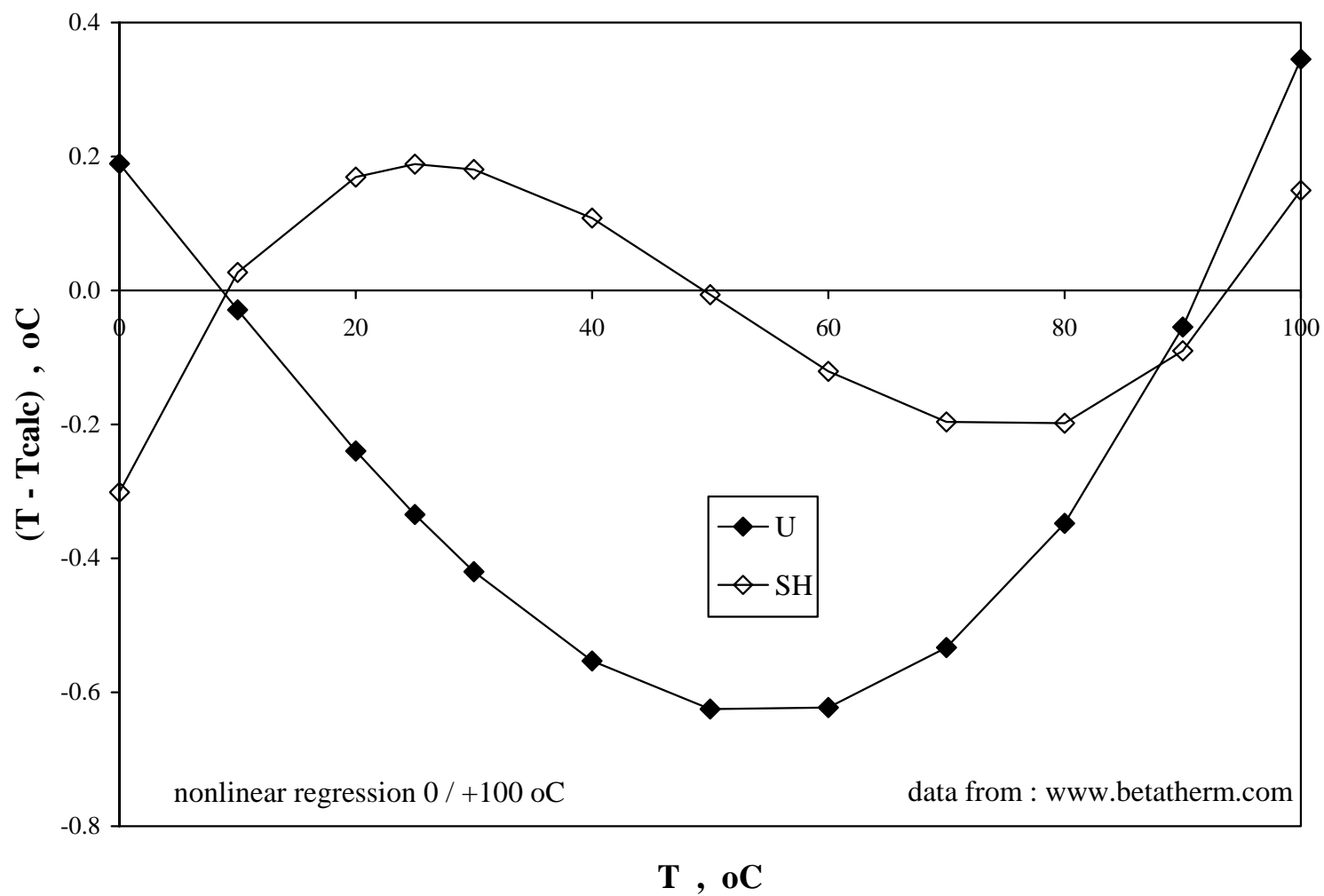


Figure 2.
Idem as Figure 1 excepting the temperature range (0 to +150 oC).

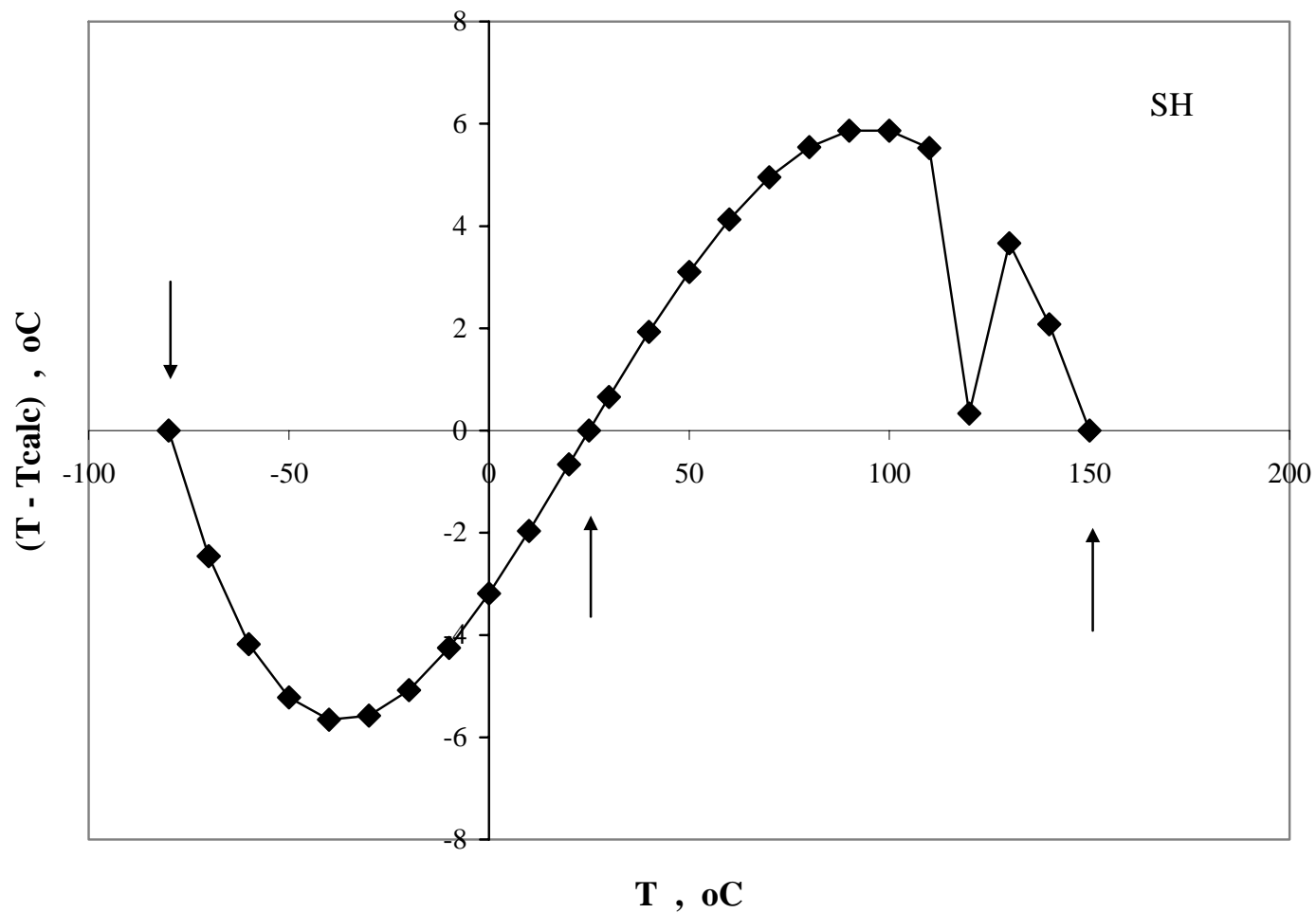


Figure 3.

Idem as Figures 1 excepting the calculated values according to SH eqn taking into account three equidistant points (indicated by arrows)

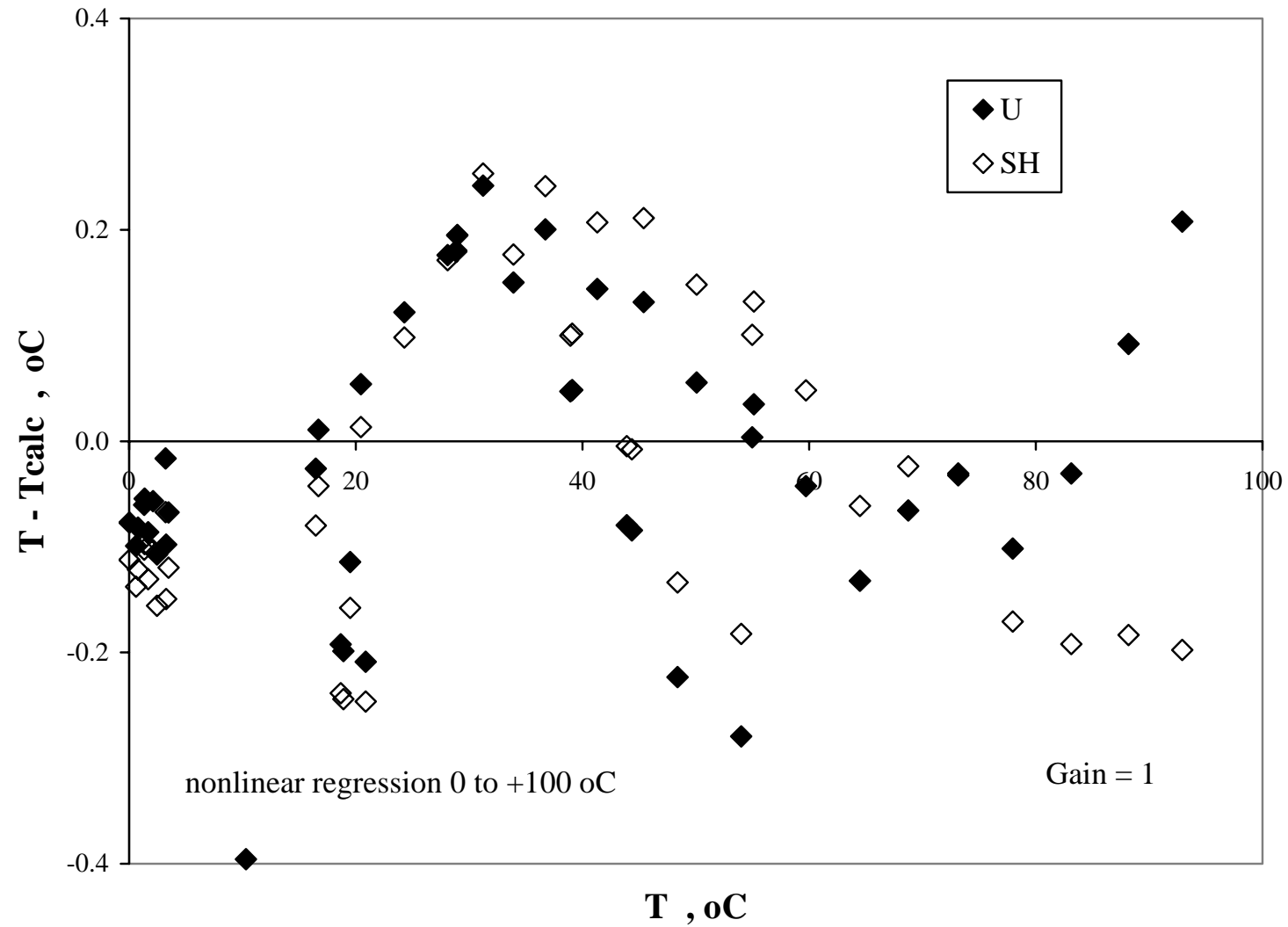


Figure 4.

Deviation temperature values according U and SH eqns by nonlinear regression of actual experimental data obtained with Gain =1 on the range of 0 to +100 oC.

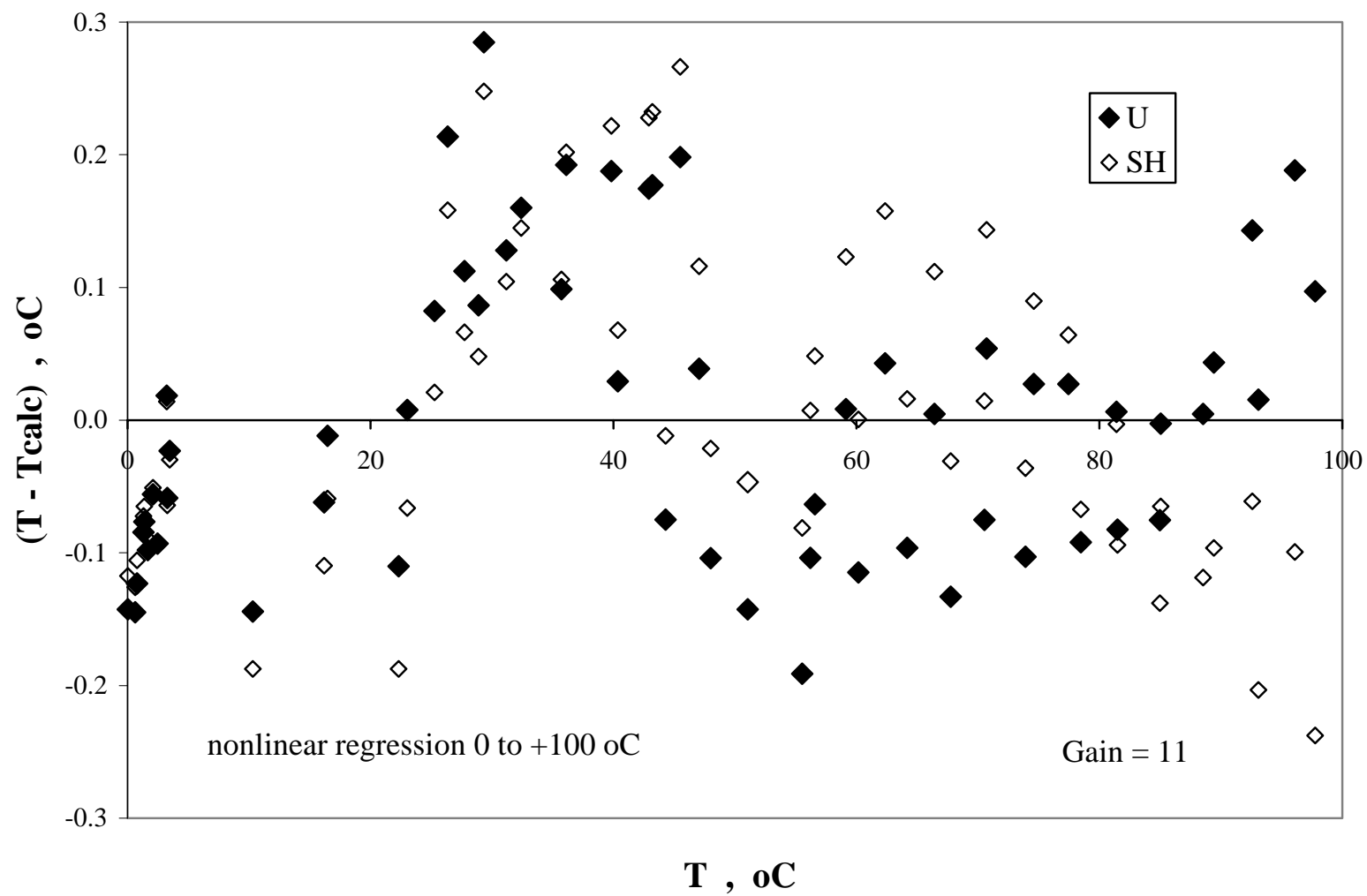


Figure 5.

Idem Figure 4 excepting Gain = 11.

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 9 th 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

continued

Year	VOL	NO	Content (titles)	(\$*)
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. 1 st 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 practice.(Plenary lecture at the 19 th SRH National Congress, 21-22 September 2004, Bucharest, Romania)	F
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. (12 th 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

Year	VOL	NO	Content (titles)	(\$*)
2007	11	3	TRESISTOR© - data banks of materials with thermally driven electric and magnetic properties TRESISTOR© - NTC -1 - data bank of NTC thermistors	AFI
2008	12	1	Australian population: life, death and cancer	F
2008	12	2	Pattern of Cancer Diseases	F
2008	12	3	Adiabatic calorimetry – summary description of the demo prototype	F

*) F=free, AFI=ask for invoice.

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