News from the Software Smithy at the IREF:

Global-Scaling at a Mausklick

By Dr. rer. nat. Hartmut Müller, Director of the Institute for Space-Energy-Research in memory to Leonard Euler (IREF), Wolfratshausen.

22 years of research and development have gone into this software, the prototype of which had given Russian space flights and military technology new wings. The Global-Scaling-Calculator (GSC) is the quintessence of a new physics that was developed by public funds in the mid-1980ies behind Kremlin walls. The Global-Scaling-Calculator allows for the optimisation of technical constructions and systems of all kinds, for the development of new materials, conception of new energy sources, as well as the prognostication of trends on the international market of products and technologies.

The story of the Global-Scaling-Calculator begins almost 20 years ago when at the Volgograd Polytechnical Institute I had for the first time considered the possibility of technical applications of Global Scaling Theory. I discovered that not only nature follows the Law of Global Scaling but also the world of technology. In 1983 I developed the first Global Scaling assembler code for the Intel 8080, later for the 8086, the Russian ES-system and multiprocessing machines. In the frame of the training for Space-Energy-Consultant (REB®) at the Institute for Space-Energy-Research i.m. Leonard Euler, a user software for Intel Pentium PCs under MS Windows was developed in collaboration with the Swiss engineer André Waser.

Scaling means invariance of measures or scale invariance. In physics it signifies the invariability of process-related equations despite change of process-related measures. So far this rather curious phenomenon has been established only in the area of high-energy physics. But in 1982 I found an equation that describes a standing wave in the logarithmic space of measures (scales) and therefore cannot itself depend on scale. When I discovered that this equation not only described the mass spectrum of elementary particles with the greatest precision but also that of atoms, planets, stars, cell organelles, bacteria, and of all plants and animals – I realised that this standing wave actually exists in the universe and that it was a gravitational wave. This is how the Theory of Global Scaling came about.

Global Scaling Theory is based on the recognition that standing gravitational waves in the universe are the cause for a global process of selection to which all material (physical, chemical, biological and technical) systems and processes are subordinated. In effect, only those systems can have long-term survival whose physical properties take on values that coincide with the node points of the global standing gravitational wave. This fundamental law of physics also applies to technological systems. It opens environmentally sound technologies and revolutionises communications, transportation and energy technologies.

The global standing gravitational wave in the universe is strong enough to grant survival to only those systems whose physical parameters are found within precisely calculable intervals and subintervals on the logarithmic line. In this sense, even among physical bodies in the universe a kind of natural selection takes place. As a consequence of this process of selection natural objects will not have arbitrary masses, sizes, natural frequencies, etc. but only strictly defined ones that can be calculated with the Global-Scaling-Calculator.

In its wave peaks (anti-nodes) the global standing gravitational wave replaces matter in regular intervals on the logarithmic line of measures/scales and concentrates matter in the node points. Hence, the universe is fractal revealing itself in the form of conglomerates – galaxies, stars, planets, organisms, molecules, atoms, particles. The global flux of matter in the universe caused by the gravitational wave acts as a morphogenetic factor and continually recreates the universe anew.

Technical systems also have physical properties thus inhabiting their specific place in the universe, or more correctly: along the logarithmic line of scales. These system's physical properties, in particular their mass, density or dimension, will therefore be equally subject to the influence of the global standing gravitational wave as are natural systems. Evolution of technology occurs along precisely the same physical laws as does the evolution of nature. It must be expected, therefore, that technical systems, regardless of branch, will develop in such a way that their physical properties on the logarithmic line will fall on node point areas of the standing gravitational wave. These can be calculated by the Global-Scaling-Calculator. The higher the requirements of physical precision for a technical system the more it is subject to natural selection by the global standing gravitational wave.

Technical systems that were optimised according to Global Scaling principles are prospectively acting systems thanks to their superflexibility. Technology that was developed without knowledge of the Law of Global Scaling represents nothing more than the prehistory of technical evolution.

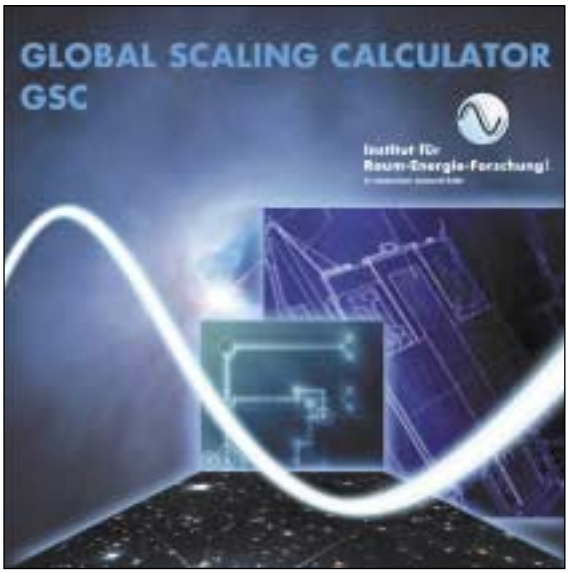
Global Scaling Theory leads to a fundamentally new understanding of gravitation, of electromagnetism and strong and weak physical interactions. Global Scaling Theory explains the phenomena of global synchronism, of superluminal motion, wavegenetics, morphogenesis, it allows for the exact calculation of the mass spectrum of elementary particles, stable and unstable atomic nuclei, stars, planets, and galaxies, the distribution of biotic systems on the logarithmic line of scales – and all of this as the result of a single physical phenomenon: the global standing gravitational wave.

In the node points of the global standing gravitational wave matter conglomerates into little "bunches" wherein the number of particles in each bunch will not have arbitrary but only quantised values of the progression $\exp(3n\pm1)$ for n=0, 1, 2, ... This rule is a special case of the Global Scaling Law determining the distribution of stable sets in all physical, chemical, biological and social processes. It applies both to the number of dust particles in one of the "bunches" of Kundt's Experiment as well as to the number of feathers of different bird species, the extent of

animal populations, the number of stars in a galaxy, or the number of inhabitants of cities and communities.
The global standing gravitational wave modulates the decay process of radioactive carbon in the same way as it does for the mitosis of embryonic cell cultures, the index fluctuations on the Frankfurt stock exchange and the course of world history.
More information to the Theory of Global Scaling can be found in the following articles of this special 1 issue:

- Russian Scientists Confirm: Gravitation As Ubiquitous Medium (page 6)
- Gravity Signals Received From Space (page 11)
- Faster Than Light (page 21)
- Cold Fusion And Superfluidity at Room Temperature (page 15)
- Global Scaling: At last! Source of Space-Energy Discovered (page 24)
- Places to Scale (page 59)
- The Universe's Energy Source (page 56)
- Global Scaling: The Global Time Wave (page 44)
- Warm-Blooded Animals, Cosmic Cold, Solar Heat and Water II (page 68)
- The Code of Prime Numbers In the Universe (page 63)
- Shock For Geneticists: Genetic Information Not Contained in DNA! (page 78)
- Global Scaling 24.000 Years Ago: When in Paris the Mammoth Was Not Yet Hunted (page 93)
- Global Scaling And the Secret of Ageing: Why Birds And Reptiles Live Longer Than Mammals (page 100)
- Global Scaling in Computers And Information Technology: The Universe's Trinary Logic (page 111)

Comprehensive information and insights on Global Scaling / New Physics are provided by the certificate training for Space-Energy-Consultant (REB®) that is offered at the Institute for Space-Energy-Research i.m. Leonard Euler in Wolfratshausen (near Munich).



The Global-Scaling-Calculator allows for the optimisation of technical constructions and systems of all kinds, for the development of new superflexible materials, conceiving of new energy sources as well as prognostication of trends at the international market of products and technologies.

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Dr. Müller at the VDI

Global-Scaling at Graf-Zeppelin-House

"Natural Selection of Technical Systems" was the subject of a lecture presented by Dr. rer. nat. Hartmut Müller, Director of the Institute for Space-Energy-Research i.m. Leonard Euler (IREF) on May 10th 2001 in Friedrichshafen. By invitation of the German Engineers' Society (Verein Deutscher Ingenieure VDI), regional society of Lake Constance area, more than 100 members of the Society and guests have gathered in the auditorium of Graf-Zeppelin House in Friedrichshafen. Not just the unusually large number of participants but also the length of the lecture presented (more than 3 hours) as well as engaged discussions that ensued revealed how relevant and explosive the topic is. The existence of standing gravitational waves was postulated in 1982 by the German physicist and mathematician Dr. rer. nat. Hartmut Müller and was experimentally proven in Russia during the mid-1980ies.
Material Systems insofar as they possess mass will be under the influence of standing gravitational waves. This certainly applies also to technical systems of all kinds. Standing gravitational waves are the cause of a global process of selection. This selection demands that in the long run only those systems will survive whose physical properties take on values coinciding with the node areas of standing gravitational waves.
The natural selection process can be demonstrated in the history of technical systems very easily. The higher the requirement for physical precision of a technical system the more it is subject to natural selection by standing gravitational waves. Firearms traditionally have high requirements of precision, reliability and longevity. For this reason, the process of selection in this industry takes place very rapidly so that today a small number of calibres has gained great popularity. The dimensions of these calibres fill the node areas of standing gravitational waves. Firearms whose calibres do not comply with the node areas of standing gravitational waves are no longer serially manufactured at best constituting special fabrications or museum artefacts.
Also in other technical areas, such as the development of computer and nanotechnologies, the selective influence of standing gravitational waves is obvious. The standing gravitational waves leave only strictly defined alternatives for any physical value of a technical system which can be calculated in the framework of Global Scaling Theory. This knowledge ought to be part of any future-oriented management planning. It allows not only for prognosis of technological trends and developments but also for the optimisation of existing technical systems.
The IREF conveys to all who are interested the physical-mathematical fundamentals for the calculation of standing gravitational waves and their influence on the behaviour of technical systems. The teaching takes place in the frame of a certificate training for Space-Energy-Consulting (REB®) / Global Scaling.
Standing gravitational waves formulate in a very broad frequency spectrum and will have various wavelengths, from a few picometres to several thousand light years. This property predestines standing gravitational waves as carrier waves for information transfer over very large distances. The subject is part of a research project at the IREF in collaboration with the State University of St. Petersburg.