

VIVA TAMÁS !!!

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Rio de Janeiro / Budapest, 2026

SOME DATES LINKING TAMÁS AND I 😊



2009 Tamás et al publish a very influential paper on q-statistics

Eur. Phys. J. A **40**, 325–340 (2009)
DOI 10.1140/epja/i2009-10806-6

THE EUROPEAN
PHYSICAL JOURNAL A

Regular Article – Theoretical Physics

Non-extensive approach to quark matter*

(~ 250 citations)

T.S. Biró^a, G. Purcsel, and K. Ürmösy

KFKI Research Institute for Particle and Nuclear Physics, H-1525 Budapest, PF. 49, Hungary

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Communicated by U.-G. Meißner

Abstract. We review the idea of generating non-extensive stationary distributions based on abstract composition rules of the subsystem energies, in particular the parton cascade method, using a Boltzmann equation with relativistic kinematics and modified two-body energy composition rules. The thermodynamical behavior of such model systems is investigated. As an application hadronic spectra with power law tails are analyzed in the framework of a quark coalescence model.

Pioneers of q-statistics in high-energy physics!

Piero Quarati / Torino

Grzegorz Wilk / Warsaw,

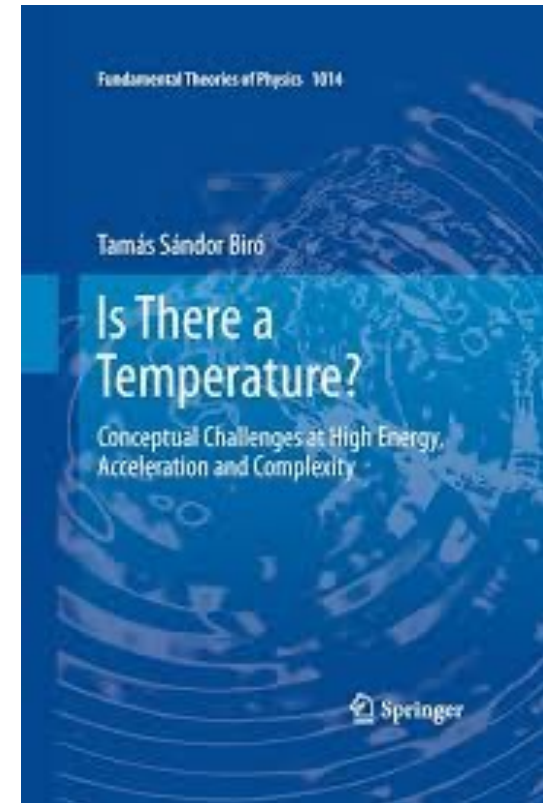
Tamás S. Biro / Budapest,

Jean Cleymans / Cape Town

2010 Tamás invites me to Budapest,
when I also met Gergely, Peter, ...!



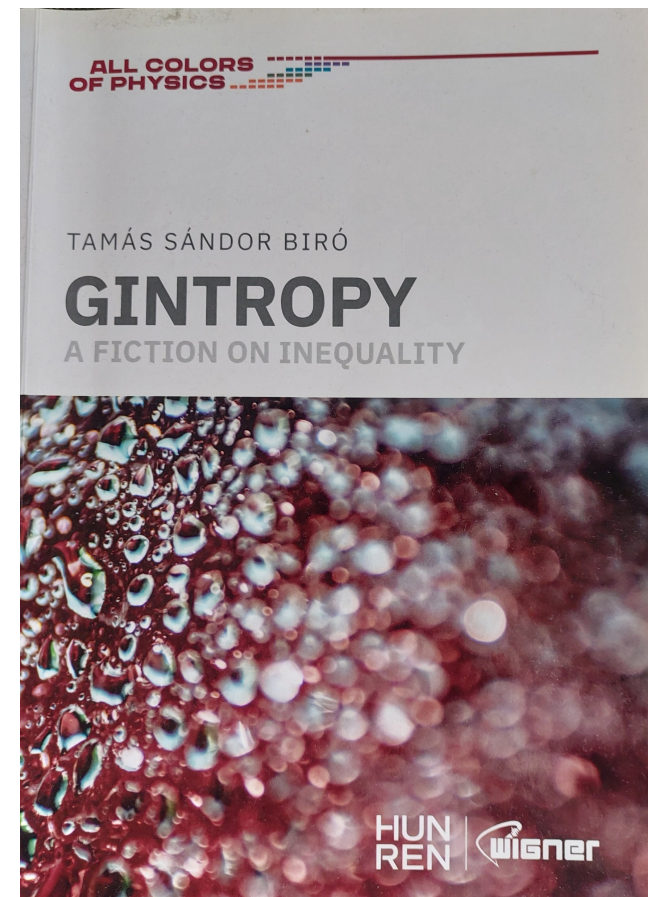
2011 Tamás publishes his challenging book
“Is There a Temperature? –
Conceptual Challenges at High Energy
Physics, Acceleration and Complexity”



2012 Tamás receives Recognition from the President of Hungary for his contributions in “Nonextensive Thermodynamics”



2024 Tamás graciously offers to me in Erice a copy of his fiction book “Gintropy – A Fiction on Inequality”, where I appear as *Santino* 😊



THE HEART OF THE GENERALIZATION OF BOLTZMANN-GIBBS STATISTICAL MECHANICS

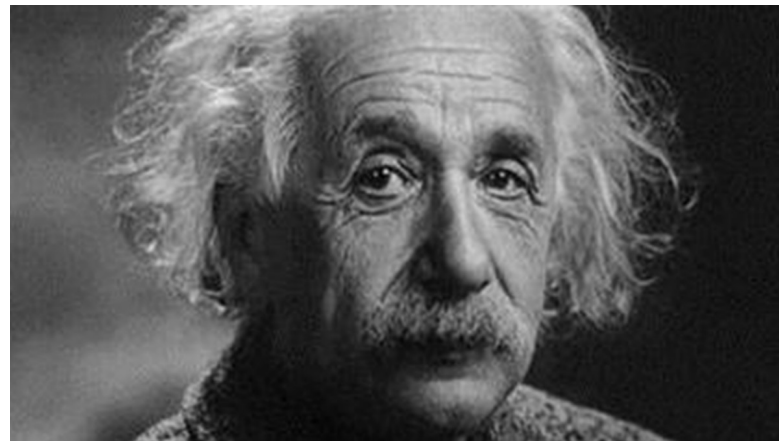
The Boltzmann-Gibbs **additive** entropic functional yields thermodynamically **extensive** entropies when the total number W of microscopic configurations **increases exponentially with N** .
This yields local space-time correlations.

NOT SO for more complex dependencies! For such cases, **nonadditive** entropic functionals are needed to preserve entropic **extensivity**, as mandated by thermodynamics!
This yields non-local space-time correlations.

SYSTEMS $W(N)$ <i>(equiprobable)</i>	ENTROPY S_{BG} (ADDITIVE)	ENTROPY S_q $(q \neq 1)$ (NONADDITIVE)	ENTROPY S_δ $(\delta \neq 1)$ (NONADDITIVE)	ENTROPY S_λ^C $(\lambda > 0)$ (NONADDITIVE)
$\sim A \mu^N$ ($A > 0, \mu > 1$)	EXTENSIVE	NONEXTENSIVE	NONEXTENSIVE	NONEXTENSIVE
$\sim B N^\rho$ ($B > 0, \rho > 0$)	NONEXTENSIVE	EXTENSIVE $(q = 1 - 1/\rho)$	NONEXTENSIVE	NONEXTENSIVE
$\sim C v^{N^\gamma}$ ($C > 0, v > 1, 0 < \gamma < 1$)	NONEXTENSIVE	NONEXTENSIVE	EXTENSIVE $(\delta = 1/\gamma)$	NONEXTENSIVE
$\sim D \ln N$ ($D > 0$)	NONEXTENSIVE	NONEXTENSIVE	NONEXTENSIVE	EXTENSIVE $(\lambda = 1/D)$

A theory is the more impressive the greater the simplicity of its premises is, the more different kinds of things it relates, and the more extended is its area of applicability. Therefore the deep impression that classical thermodynamics made upon me. It is the only physical theory of universal content concerning which I am convinced that, within the framework of applicability of its basic concepts, it will never be overthrown.

Albert Einstein (1949)





King Thutmose I
18th Dynasty
circa 1500 BC

Superstatistical Approach to Turbulent Circulation Fluctuations

Henrique S. Lima¹, Rodrigo M. Pereira², Luca Moriconi³, Katepalli R. Sreenivasan^{4,5*}, and Constantino Tsallis^{1,6,7,8}

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⁸*Dipartimento di Fisica e Astronomia Ettore Majorana, University of Catania, Italy*

Arxiv 2604.15277 [physics.flu-dyn]

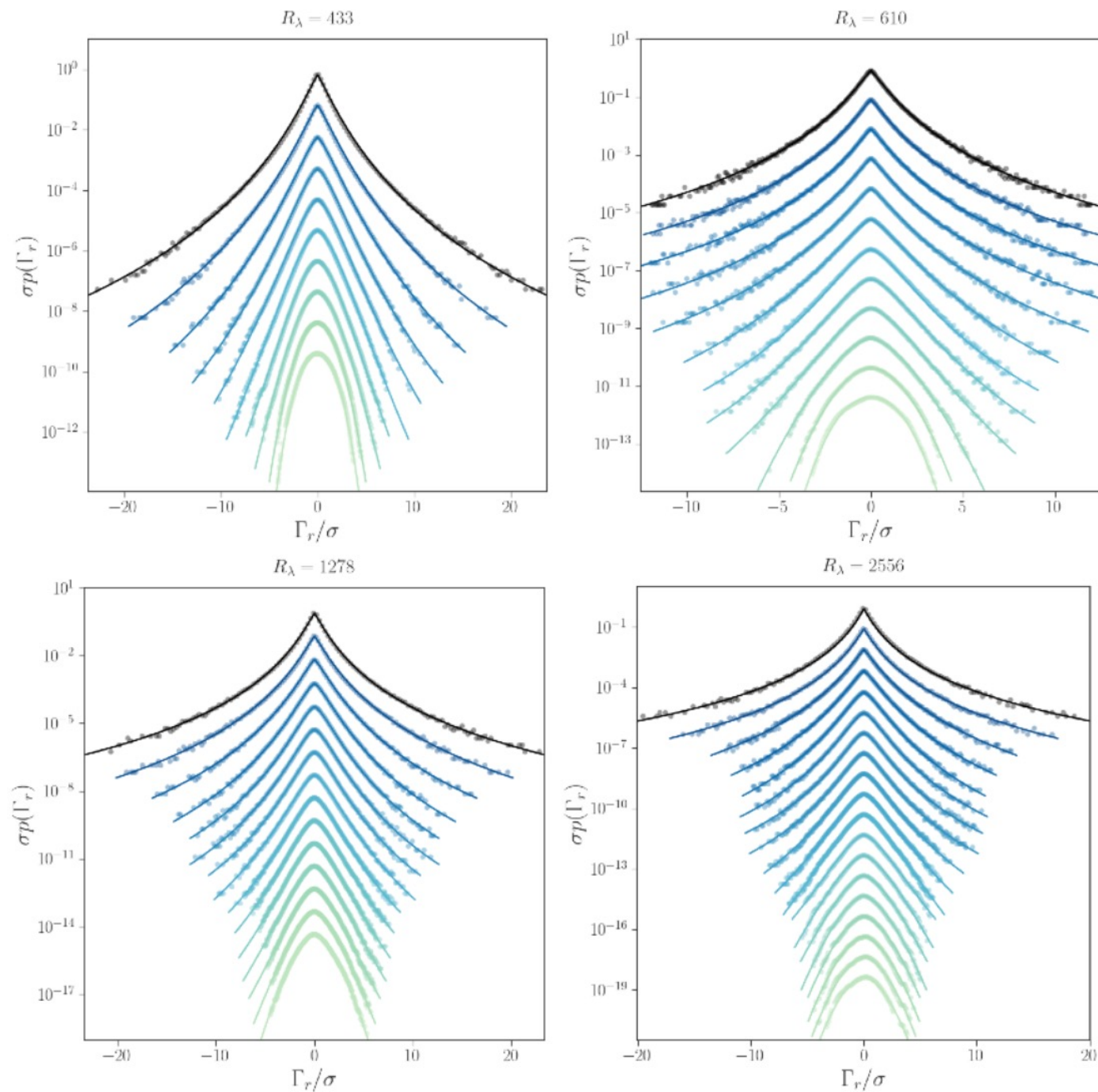


FIG. 1: Standardized circulation PDFs evaluated over square contours of sides r that run from deep in the dissipative range ($r \approx \eta$) up to the top of the inertial range. The scale r increases from top to bottom across the PDFs. Symbols denote DNS data, while solid lines correspond to q -exponential fits. For visual clarity, the curves are vertically offset.

Nobel Symposium NS215 – Beyond Boltzmann: Complexity, Memory, and Non-Additive Entropies

Together with the Royal Swedish Academy of Sciences, we are organizing 2027 Nobel Symposium in Physics convening leading experts to consolidate advances in generalized statistical mechanics for memory-rich, strongly correlated, and constrained systems.

When: 24 - 28 May, 2027

Where: Bäckaskog slott

Host: Department of Physics, Lund University

Symposium Chair: Roman Pasechnik (Lund University, Sweden)

Co-Chair & Synthesis Lead: Constantino Tsallis (Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil)

The NOBEL SYMPOSIA mark is owned by the Nobel Foundation.



Beyond Boltzmann: Complexity, Memory, and Non-Additive Entropies

For one and a half centuries, the additive Boltzmann-Gibbs-von Neumann-Shannon (BG) entropy has anchored statistical mechanics and explained an enormous range of phenomena in systems that forget their past quickly and whose accessible microstates grow essentially exponentially with system size. Across today's data-rich sciences, however, we increasingly meet regimes where space-time correlations decay slowly, memory persists, constraints and long-range couplings crucially matter, and additivity no longer captures the regularities seen in



NOBEL SYMPOSIA funded by the Royal Swedish Academy of Sciences

NOBEL SYMPOSIA are a long-running series of high-level scientific meetings (established in 1965) that bring together leading Swedish and international experts to synthesize advances, assess the state of the art, clarify open questions, and set a forward-looking research agenda in selected rapidly developing fields. The format is intentionally compact, with an emphasis on depth, discussion, and a clear scientific outcome, with participation by invitation only.

Organizing Committee

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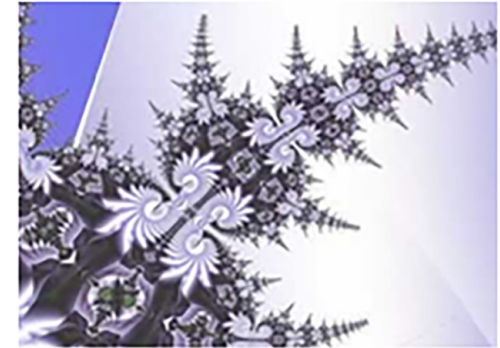
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International Conference on
ΣΤΑΤΙΣΤΙΚΗ ΦΥΣΙΚΗ
Kolymbari - Crete - Greece 6-10 July 2026



ΣΦ Conference

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ΣΦ 2026

SigmaPhi Prizes

The SigmaPhi Prize was instituted by the SigmaPhi Conference to honor outstanding achievements in Statistical Physics. The Award ceremony takes place every three years during the opening session of the Conference, and each laureate receives a diploma.

Prizes in SigmaPhi 2026

The SigmaPhi Prize for 2026 will be awarded during the SigmaPhi2026 Conference to:

Euthimios Kaxiras (Harvard University, Cambridge, United States)

David McComas (Princeton University, Princeton, United States)

Constantino Tsallis (Centro Brasileiro de Pesquisas Fisicas, Rio De Janeiro, Brazil).

HAPPY BIRTHDAY, TAMÁS!!!

NA TA EKATOSTISSIS!!!