NONEXTENSIVE STATISTICAL MECHANICS
AND THERMODYNAMICS: BIBLIOGRAPHY *

June 2, 2021

GENERAL THEORY

Generalized entropy and thermostatistics: [1]
Connection to thermodynamics, ensembles and Jaynes' information theory: [2–1630, 1632–1849, 1849–2330]
H-theorem and irreversibility: [2331–2377]
Ehrenfest theorem, von Neumann equation: [3, 2378–2384]
Quantum statistics: [2385–2501]
Variational and perturbative methods; Bogolyubov inequality; Green functions; Path integral; Boltzmann equation: [2400, 2502–2598]
Langevin and Fokker-Planck equations: [2335–2356, 2358–2391, 2575–2578, 2580–2636, 2638–3075]
Fluctuation-dissipation, Nyquist and Onsager reciprocity theorems, Kubo's linear response theory and Kramers-Kronig relation: [6, 3076–3097]
Poisson equation: [3098–3108]
Callen identity: [3109]
Ising transmissivity: [3110]
Classical equipartition principle: [3111–3113]
Connection with quantum uncertainty: [3114–3160]
Connection with Fisher information measure: [3161–3173]
Connection with ergodicity, nonlinear dynamical systems, self-organized criticality, cellular automata, fractals: [9, 63–71, 2471, 3174–3617]
Connection with general relativity, cosmology, dark energy, string theory: [3162, 3618–3755]
Connection with quantum groups and quantum mechanics: [3756–3803]
Connection with wavelets; Signal processing; EEG: [3804–3893]
Connection with quantum correlated many-body problems: [3894–3906]
Connection with the Gentile and the exclusion Haldane statistics: [3907–3910]
Connection with finite systems: [3907, 3907]
Rigorous results (generalized entropy and thermostatistics): [3178–3183, 3911–3916]
Integral transformations (Hilhorst and Prato formulae): [2389, 3076, 3917–3920]

ONE-BODY SYSTEMS

Two-level system: [1, 3921]
Harmonic and anharmonic oscillators: [1179–1193, 3915–3923]
Free particle: [3924, 3925]
Larmor precession: [2380]
Rigid rotator: [3919–3928]
Hydrogen and hydrogen-like atoms: [1381–1384, 1387–1392, 3929–3956]

*This regularly updated Bibliography (at http://tsallis.cat.cbpf.br/biblio.htm) contains 8473 articles from 15095 signing (co)authors. It does not address the vast existing literature addressing nonextensive thermodynamical anomalies, but only articles including at least one substantial relation with nonadditive entropies, nonextensive statistical mechanics and thermodynamics. It is a fairly complete listing whose classification and indexation are, however, only indicative.
MANY-BODY SYSTEMS

Ideal, classical gases, and other toy models: [3076–3111, 3917–3924, 3926–3982]
Independent spin paramagnet, Landau magnetism: [3762–3768, 3983–3990]
Black-body radiation and photonic systems: [3991–4045]
\( d = 1 \) Ising ferromagnet: [4046–4050]
\( d \geq 2 \) Ising and other ferromagnets: [3110, 4051–4093]
Infinite-range Ising ferromagnet: [4094]
Potts ferromagnet, Molecular field approximation: [3109, 4068–4098]
Percolation: [4099–4101]
Electron-phonon systems; tight-binding-like Hamiltonians; nanosystems; theoretical chemistry: [4102–4157]

APPLICATIONS

Self-gravitating systems, Stellar polytropes, Vlasov equation, Galaxies, Galaxy clusters: [2557, 3098, 3162, 4158–4316]
Lévy-like and correlated anomalous diffusion: [17, 2670, 2671, 2733–2776, 4317–4380, 4387–4393]
Turbulence; Granular matter; Viscous fingering; Navier-Stokes equation; Boltzmann equation; Mossbauer effect: [3098, 4362–4388, 4394–4699]
Solar neutrinos; High energy physics: [4700–4912, 4914–4943, 4945–5294]
Ferrofluid-like materials, Lennard-Jones and other fluids: [4085, 5291, 5295–5317]
Solitons: [5318, 5319]
Plasma (electron velocity distribution, magnetohydrodynamics): [5320–5452, 5454–5807]
Glass, Spin-glass: [5808–5843]
Superfluid helium; Bose-Einstein condensation: [5844–5868]
Test of Boltzmann-Gibbs thermostatistics: [3623, 4014, 4015]
Cosmic rays; Elementary particles: [5254, 5808–6110]
Biological systems; Microemulsions; Liquid crystals: [6111–6228]
Stochastic resonance; Brownian motors: [6229–6254, 6256–6271]
Connection with the Theory of finances: [17, 18]
Connection with the Theory of perceptions: [17, 18]
Consistent testing; Statistical inference; Theory of probabilities: [703–714, 716–759, 2553, 6472–6543]
Simulated annealing and optimization techniques; Monte Carlo (Genetics, Traveling salesman problem, Data fitting curves, Quantum chemistry, Gravity models, Lennard-Jones clusters, Thomson model, spin systems, proteins, nucleic acids): [2576, 4079, 6810–7181]
Neural and other networks: [6189, 6190, 7182–7312]
Analysis of time series (nonlinear dynamics, epilepsy, earthquakes, economics) and images: [3804–3829, 7313–7582, 7584–7720, 7722–7942]
Geophysics: [3828, 3829, 3796, 7943–8024]
Medicine; Tomography: [3830–3837, 7313, 7314, 7635, 8025–8107]
Symbolic dynamics, linguistics, philology, cognitive sciences, hydrology, ecology: [3226–3254, 3258–3281, 6752, 8108–8125, 8127–8281]

GENERAL READING

Generalized thermostatistics; Generalized distributions: [648, 8282–8473]
References


12


[308] E.N. Saridakis, Modified cosmology through spacetime thermodynamics and Barrow horizon entropy, Journal of Cosmology and Astroparticle Physics, 031 (2020).


[311] A. Sheykhi, Barrow entropy corrections to Friedmann equations, preprint (2021), 2102.06550 [gr-qc].


[314] A.Y. Shaikh, Diagnosing Renyi and Tsallis holographic dark energy models with Hubble’s horizon cutoff, preprint (2021), arxiv 2105.04411


[357] A. Lymperis, *Cosmological aspects of unified theories*, Doctor Thesis (School of Natural Sciences Department of Physics, University of Patras, 2021).


L. Velazquez and F. Guzman, Geometric aspects in equilibrium thermodynamics, preprint (2001) [cond-mat/0105364].

L. Velazquez and F. Guzman, Where the Tsallis statistics is valid?, preprint (2001) [cond-mat/0105378].


L. Velazquez and F. Guzman, Relaxing the extensive postulates, preprint (2001) [cond-mat/0107214].

L. Velazquez and F. Guzman, Justifying the Tsallis formalism, preprint (2001) [cond-mat/0107441].


H. Suyari, Three classes of nonextensive entropies characterized by Shannon additivity and pseudoadditivity, preprint (2002) [cond-mat/0205001].

H. Suyari, Generalization of Shannon-Khinchin axioms to nonextensive systems and the uniqueness theorem, preprint (2002) [cond-mat/0205004].
References


[630] Q.A. Wang, Many-body $q$-exponential distribution prescribed by factorization hypothesis, preprint (2001) [cond-mat/0112211].


[633] H. Touchette, When is a quantity additive, and when is it extensive?, Physica A 305, 84 (2002).


R.L. Mendonca Sales Filho, A novel q-exponential based stress-strength reliability model and applications to fatigue life with extreme values, Doctor Thesis (Universidade Federal de Pernambuco, Engenharia de Producao, Recife, Brazil, 2016).


A. Golan and J.M. Perloff, Comparison of maxim, um entropy and higher-order entropy estimators, J. Econometrics 107, 195 (2002).


B.H. Lavenda and J. Dunning-Davies, Qualms concerning Tsallis’s condition of pseudo-additivity as a definition of non-extensivity, preprint (2003) [cond-mat/0312132].


E.C. Aifantis, A.K. Rajagopal, C.S. Pande and S. Abe,
On the definition of fluctuating temperature,
preprint (2004) [cond-mat/0401024].

S. Abe and A.K. Rajagopal,
Scaling relations in equilibrium nonequilibrium thermostatistics,

S. Abe, P.T. Landsberg, A.R. Plastino and T. Yamano,
Nonadditive statistical measure of complexity and values of
the entropic index q,
preprint (2004) [cond-mat/0403738].

E.C. Aifantis,
Gradient material mechanics: Perspectives and prospects,
Acta Mechanica 225, 999-1012 (2014),

E.C. Aifantis,
Continuum nanomechanics for nanocrystalline and ultrafine grain materials,
6th International Conference on Nanomaterials by Severe Plastic Deformation,
doi:10.1088/1757-899X/63/1/012129

E.C. Aifantis,
Gradient extension of classical material models: From nuclear and condensed matter scales to
Earth and cosmological scales,

A.A. Konstantinidis, X. Zhang and E.C. Aifantis,
On the combined gradient-stochastic plasticity model:
Application to mo-micropillar compression,
in International conferences and exhibition on nanotechnologies
and organic electronics (NANOTEXNOLOGY 2014),
eds. S. Logothetidis, A. Laskarakis and C. Gravalidis,
AIP Conference Proceedings 1646, 3-9 (2015),
doi: 10.1063/1.4908575

A.C. Iliopoulos, N.S. Nikolaidis and E.C. Aifantis,
Portevin-Le Chatelier effect and Tsallis nonextensive statistics,
Physica A 438, 509-518 (2015),
doi: //dx.doi.org/10.1016/j.physa.2015.07.007

A.C. Iliopoulos and E.C. Aifantis,
Tsallis q-triplet, intermittent turbulence and Portevin-Le Chatelier effect,

E. Zorzetto, A.D. Bragg and G. Katul,
Extremes, intermittency, and time directionality of atmospheric
turbulence at the crossover from production to inertial scales,

A.C. Iliopoulos, M. Tsolaki and E.C. Aifantis,
Tsallis statistics and neurodegenerative disorders,

A.C. Iliopoulos, M. Tsolaki and E.C. Aifantis,
Tsallis q-triplet and neurodegenerative diseases,

J. Nikolaides and E. Aifantis,
Exploring modeling analogies between living and non-living systems,

A. Iliopoulos and E. Aifantis,
Tsallis q-triplet and neurodegenerative diseases,

A.C. Tsolakis, G. Petsos, O. Kapetanou, I.N. Nikolaidis and E.C. Aifantis,
Model analogies between pattern formation in deforming engineering materials and morphogenesis in ageing human brains,

E.C. Aifantis,
Internal length gradient (ILG) material mechanics across scales and disciplines,

G.P. Pavlos,
Complexity theory, time series analysis and Tsallis q-entropy principle part one: Theoretical aspects,
J. Mechanical Behavior of Materials 26 (5-6), 139-180 (2017).

E.C. Aifantis,
Towards internal length gradient chemomechanics,

F. Brouers, O. Sotolongo-Costa and K. Weron,

F. Brouers and F. Marquez-Montesino,
Dubinin isotherms versus the Brouers-Sotolongo family isotherms: A case study,
Adsorption Science and Technology 34 (9-10), 552-564 (2016).


[950] E.P. Hanson, *Entropic continuity bounds and eventually entanglement-breaking channels*, Doctor Thesis (Department of Applied Mathematics and Theoretical Physics, University of Cambridge, 2020).


[1001] L. Pan and Y. Deng, A new belief entropy to measure uncertainty of basic probability assignments based on belief function and plausibility function, Entropy 20, 842 (2018), doi: 10.3390/e20110842


[1010] V. Arya and S. Kumar, Picture fuzzy multiple criteria decision making based on TODIM with Tsallis entropy weighted method, Advances and Applications in Mathematical Sciences 19 (8), 729-752 (2020).


[1072] T. Yamano, Generalized symmetric mutual information applied for channel capacity, preprint (2001) [cond-mat/0102322].


[1120] S. Umarov and C. Tsallis, *Limit distribution in the q-CLT for q ≥ 1 cannot have a compact support*, preprint (2010), 1012.1814 [cond-mat.stat-mech].


[1169] H. Suyari and A.M. Scarfone, α-divergence derived as the generalized rate function in a power-law system, Proceedings of 2014 International Symposium on Information Theory and Its Applications, ISITA 2014, Article number 6979817, Pages 130-134 (Melbourne, Australia; 26 to 29 October 2014; Category numberCFP1405E-CDR; Code 109700).


G.B. Bagci, Klimontovich’s S theorem in nonextensive formalism and the problem of constraints, preprint (2007), 0705.2053 [cond-mat.stat-mech].


T. Oikonomou and G.B. Bagci, Complete versus incomplete definitions of the deformed logarithmic and exponential functions, preprint (2009) 0907.4067 [cond-mat.stat-mech].


R.K. Niven, Constrained forms of the Tsallis entropy function and local equilibria, preprint (2005) [cond-mat/0503263].


R. Uzdin, Generalized Clausius inequalities for small systems - higher order heat flows and their related information measures, preprint (2016), 1609.05742 [quant-ph].


C. Vignat and A. Plastino, Density operators that extremize Tsallis entropy and thermal stability effects, Physica A 361, 139-160 (2006).

O. Sotolongo-Costa, A. Gonzalez and F. Brouers, Generalized Non-extensive Statistical Distributions, preprint (2005), [cond-mat/0505525].


[1409] Z. Zhu, P. Hei, J. Dou and D. Peng, Evaluating different methods for determining the velocity-dip position over the entire cross section and at the centerline of a rectangular open channel, Entropy 22, 605 (2020), doi: 10.3390/e22060605


[1493] A.M. Mathai, Some recent results connecting many areas, communicated at the International Conference on Mathematical Sciences (3-5 January 2011, Pala-Kerala, India).


[1614] *Reference function: q-Gaussian*,
[1615] *Reference function: q-exponential*,


Tsallis Entropy


Applications (7-9 July 2009, Kyoto).

2020, Florianopolis, SC, Brazil).


3552-3572 (2014), doi:10.3390/e16073552

466-476


1746-1764 (2011).

9389

398

375

4237-4243 (2011).


8085, 737-742 (2013).

398

2749-2758 (2011).


398

2011.08370 [math-ph].

A family of statistical divergences based on quasiarithmetic means, preprint (2018), 1810.09503 [cs.IT].


390

2749-2758 (2011).


431

105

2011.08370 [math-ph].


1746-1764 (2011).


9389, 615-624 (2015), ISSN: 1935-7524, DOI: 10.1214/13-EJS817

1587-1606 (2013), ISSN: 1935-7524, DOI: 10.1214/13-EJS817

4732-4747 (2013), doi:10.3390/e15114732


737-742 (2013).


523-529 (2011).

390


466-476

1742-1787 (2011).


331-344 (2014).


2011.08370 [math-ph].

1742-1787 (2011).


3552-3572 (2014), doi:10.3390/e16073552

2749-2758 (2011).

2749-2758 (2011).

737-742 (2013).


262-274 (2010).


1742-1787 (2011).

737-742 (2013).

2013.04312 [math-ph].


1746-1764 (2011).

1746-1764 (2011).

[1801] H. Hasegawa, Validity of the factorization approximation and correlation induced by nonextensivity in N-unit independent systems, preprint (2009), 0912.0521 [cond-mat.stat-mech].
[1805] X. Feng, Using harmonic mean to replace Tsallis q-average, preprint (2010), 1002.4254 [cond-mat.stat-mech].
[1806] X. Feng, The Tsallis entropy and the Boltzmann entropy applicable to the same classic generalized system, World Chinese Forum on Science of General Systems (WCFSGS) 6 (S1), Total No. 49 (2010) [ISSN 1936-7260].


W.S. Chung, On the $\mu(\beta)$-deformed statistical physics, preprint (2016).


F. Pavese, On the definition of the measurement unit for extreme quantity values: Some considerations on the case of temperature and the Kelvin scale, arxiv 1612.07161.


A. Ramirez Arellano, J. Bory Reyes and L.M. Hernandez Simon, Shannon's entropy, the saga continues, 8o Congreso Internacional de Ingenieria, CIES (2016).


D.P.K. Ghikas and F.D. Oikonomou, Towards an information geometric characterization/classification of complex systems. II. Critical parameter values from the $(c,d)$-manifold, Physica A 510, 365-374 (2018).

D.P.K. Ghikas, From complexity to information geometry and beyond, Nonlinear Phenomena in Complex Systems 23 (2), 212-220 (2020).


A. Plastino and M.C. Rocca, On the nature of the correlations induced by entropic non additivity, preprint (2017), 1701.03525 [cond-mat.stat-mech].

A. Plastino and M.C. Rocca, Hidden correlations entailed by $q$-non additivity render the $q$-monoatomic gas highly non trivial, 490, 50-58 (2018).

S. Davis and G. Gutierrez, Emergence of Tsallis statistics as a consequence of invariance, Physica A 533, 122031 (2019).


G.B. Bagci and T. Oikonomou, Looking at the Tsallis entropy in the eye, Communication at the 14th Joint European Thermodynamics Conference (Budapest, May 21-25, 2017).


[2252] R.V. Ramos, *A Simple iterative scheme to solve $x \exp_q(k_1 x) \exp_q(k_2 x) = y$*, preprint (2020).


85


[2439] F.A. Wudarski, Non-Markovian dynamics in the open quantum systems, Doctor Thesis (Nicolaus Copernicus University, Faculty of Physics, Astronomy and Informatics, 2015).
Pierre-Henri Chavanis, Dynamics and thermodynamics of systems with long-range interactions: interpretation of the different functionals, preprint (2009), 0904.2729 [cond-mat.stat-mech].


[2674] L.S.V. Santos, Dinamica microscopica associada a equacao de Fokker-Planck nao linear, Monografia (Universidade Estadual do Sudoeste da Bahia, 2019).


[945] K. Guhathakurta, B. Bhattacharya and A.R. Chowdhury, Comparative analysis of asset pricing models based on Log-normal distribution and Tsallis distribution using recurrence plot in an emerging market, in J.W.


S. Devi, Financial portfolios based on Tsallis relative entropy as the risk measure, preprint (2019), arxiv 1901.04945
S. Devi, Asymmetric Tsallis distributions for modelling financial market dynamics, preprint (2021), arxiv 2102.04532
S. Devi, Financial portfolios based on Tsallis relative entropy as the risk measure, preprint (2019), arxiv 1901.04945


[2969] J. Ruseckas, Modeling Tsallis distributions by nonlinear stochastic differential equations with application to financial markets, communication at the APFA7 and Tokyo Tech-Hitotsubashi Interdisciplinary Conference (Tokyo, 1 to 5 March 2009).


112


R. Yano, Problems with the linear q-Fokker Planck equation


G.L. Vasconcelos and D.S.P. Salazar, Multicanonical distribution and the origin of power laws, preprint (2012), 1208.5624 [cond-mat.stat-mech].


[3237] P.D. Batista, I.C. Marques, L.H. de Almeida Fauth and M.O.R. Brandao, Web of Science: showing a bug today that can mislead scientific research output prediction, SAGE Open, 1-7 (2018)


[3247] D. Koutsoyiannis and Z.W. Kundzewicz, Editorial - Quantifying the impact of hydrological studies, Hydrological Sciences Journal 52, 3-17 (Feb. 2007).


A.M.C. de Souza, *Estudos sobre o ensemble de Wishart-Tsallis de matrizes aleatorias*, communicated at the 2nd Workshop of the National Institute of Science and Technology for Complex Systems (Rio de Janeiro, 1-5 March 2010).


A.C. Bertuola and M.P. Pato, *Random matrix ensembles and the extensivity of the $S_q$ entropy*, 1110.2948 [cond-mat.stat-mech].


[3359] A. Prestes, Thermodynamic nonextensivity and elastoplasticity: Determining the Tsallis entropic index q for a SOC system by the multifractal function f(x), preprint (1999).


D. Moroni, Dinamica e termodinamica di un modello XY con lunghezza di interazione variabile, Tesi di Laurea (In Italian) (Università degli Studi di Roma La Sapienza, 1999).


C. Tsallis, B.J.C. Cabral, A. Rapisarda and V. Latora, Comment on “Negative heat capacity for a cluster of 147 Sodium atoms”, preprint (2001) [cond-mat/0112266].


M. Taherimoghadam, I. Motie, A. Bakhshayeshi and T. Mirzayed, Relativistic effects on dust grain charging in non-equilibrium dusty plasma with relativistic Tsallis distribution, Phys. Plasmas 26, 113704 (2019).


F. Sattin, On the computation of the entropy for dissipative maps at the edge of chaos using non-extensive statistical mechanics, preprint (2002) [cond-mat/0212173].


References


A. Olemskoi and I. Shuda, Multifractal theory within quantum calculus, preprint (009), 0907.4127 [cond-mat.stat-mech].


S.F. Ozeren, Genelleştirilmiş koherent haller ve matematiksel fizikte uygulamaları, Doctor Thesis (Ege University, Izmir, January 1999).


S. Abe, q-deformed entropies, Communicated at the 5th International Wigner Symposium (Vienna, 25-29 August 1997).


F. Markus and K. Gambar, Q-boson system below the critical temperature, Physica A 293, 533 (2001).


146


N. Flores-Gallegos, I. Guillen-Escamilla and J.C. Mixteco-Sanchez, Non-extensive entropies on atoms, molecules and chemical processes, Chapter 9 (2015).


M. Barati and N. Moradi, Study of the specific heat of a hydrogenic donor impurity at the center of a spherical quantum dot in contact with a heat reservoir, J. Comp. and Theor. Nanoscience 6, 1709-1713 (2009).


Non-canonical quantum optics

F. Buyukkilic, I. Sokmen and D. Demirhan, Ising chain in the generalized Boltzmann-Gibbs statistics


L. Velazquez and F. Guzman, Microcanonical thermostatistical investigation of the blackbody radiation, preprint (2001) [cond-mat/0110064].


K.S. Fa, Tsallis distribution and luminescence decays, J. Luminescence 130, 714-716 (2010).


[4096] P.R. del Santoro, Aproximacao de campo molecular do modelo de Potts generalizado, Master Thesis (Universidade de Sao Paulo-Brazil, 1994).


Z. Chen and X. Xu, Multifractality can be a universal signature of phase transitions, preprint (2013), 1304.3189 [cond-mat.stat-mech].


J.L. Du, Jeans criterion in nonextensive statistical mechanics and the nonextensive parameter for self-gravitating systems, communicated at the 12th UN/ESA Workshop in Basic Space Science (Beijing, 24-28 May 2004).


A. Nakamichi, T. Tatekawa and M. Morikawa, Statistical mechanics which describes the universe: SDSS galaxy distribution, N-body simulations, and void probability, preprint (2008).


162


[4377] F. Verheest, Comment on “Head-on collision of electron acoustic solitary waves in a plasma with nonextensive hot electrons”, preprint (2012), 1204.1478 [physics.space-ph].


174


G. Livadiotis and D.J. McComas, Dynamic of stationary states out of equilibrium in space plasmas, communicated at the 7th General Conference of the Balkan Physical Union (Alexandroupolis, 9-13 September 2009).


G. Livadiotis and D.J. McComas, Non-equilibrium stationary states in the heliosphere and the influence of pick-up ions, in Pickup Ions Throughout the Heliosphere and Beyond 1302, 70-76 (2010).


B. Layden, *Second-order nonlinear processes in warm unmagnetized plasmas*, Doctor Thesis (School of Physics, Faculty of Science, University of Sydney, December 2013).


G. Livadiotis, *“Lagrangian temperature”: Derivation and physical meaning for systems described by kappa distributions*, Entropy 16, 4290-4308 (2014), doi:10.3390/e16084290


[4769] D. Thusty, A Study of open charm production in p+p collisions at STAR, Doctor Thesis (Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering, Department of Physics, 2014).
[4778] A. Hornung, Messung von $\pi$- und $\eta$-Mesonen mit dem ALICE-PHOS in p-Pb-Kollisionen bei $\sqrt{s_{NN}} = 5.02$ TeV, Master Thesis (Universitat Frankfurt am Main, 2014).
[4786] ALICE Collaboration, Production of $\pi^0$ and $\eta$ mesons up to high transverse momentum in pp collisions at 2.76 TeV, Eur. Phys. J. C 77, 339 (2017), doi: 10.1140/epjc/s10052-017-4890-x
[4787] ALICE Collaboration, Production of $\Sigma(1385)^{\pm}$ and $\Xi(1530)^0$ in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV, Eur. Phys. J. C 77, 389 (2017) (17 pages), doi: 10.1140/epjc/s10052-017-4943-1
[4788] ALICE Collaboration, $K^*(892)^0$ and $\Phi(1020)$ meson production at high transverse momentum in pp and Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, Phys. Rev. C 95, 064606 (2017).

ALICE Collaboration, Production of the $\rho(770)^0$ meson in pp and Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, Phys. Rev. C 99, 064901 (2019).

E. Serradilla Rodriguez, Produccion de nucleos de deuterio y antideuterio en el experimento Alice del LHC, Doctor Thesis (Universidad Complutense de Madrid, 2014).

S. Papadopoulou, F. Antoniou, J.F. Esteban Muller, Y. Papaphilippou and G. Trad, Modelling and measurements of bunch profiles at the LHC flat bottom, Proceedings of IPAC2016, UTCTUPMW022 (Busan, South Korea, 19 May 2016).

K. Garg, $K^+(892)^{\pm}$ resonance with the ALICE detector at LHC, Doctor Thesis (University of Catania, 2018).


E. Serradilla Rodriguez, Produccion de nucleos de deuterio y antideuterio en el experimento Alice del LHC, Doctor Thesis (University of Catania, 2018).


LHCb Collaboration, Precise measurement of the $f_2/f_0$ ratio of fragmentation fractions and of $B^0_d$ decay branching fractions, preprint (2021), 2103.06810 [hep-ex].


E. Appelt, Measurements of charged-particle transverse momentum spectra in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV and in pPb Collisions at $\sqrt{s_{NN}} = 5.02$ TeV with the CMS detector, Doctor Thesis (Vanderbilt University, Nashville, Tennessee, 2014).


Strange hadron production in pp, pPb and PbPb collisions

Quark number scaling of pT spectra for hadronic collisions

Anti- and hyper-nuclei production at the LHC with ALICE

Strange hadron and resonance production in Pb-Pb collisions at 2.76 TeV with the ALICE experiment at LHC

Comparative study of charged multiplicities and moments in pp collisions at high energies in terms of Gamma and Tsallis statistics

Statistical hadronisation and multiplicities in high-energy hadron-nucleus collisions in the context of geometric scaling framework

Production of light nuclei and anti-nuclei in pp and Pb-Pb collisions with Alice

Investigating the inclusive transverse spectra in high-energy pp collisions in the context of geometric scaling framework

Suppression of light nuclei production in collisions of small systems at LHC energies

Hadronic resonances from ALICE in pp collisions

Effects of superstatistics on the location of the effective QCD critical endpoint

Extensive and nonextensive statistics for pT distributions of various hadrons produced in p+p and A+A collisions at LHC energies

Tsallis nonextensive entropy and the multiplicity distributions in high energy lepton collisions

Hadronization within non-extensive approach and the evolution of the parameters

Identification of strange hadrons in pp, pPb and Pb-Pb collisions with the ALICE experiment at the Large Hadron Collider

Multiplicity spectra in pp collisions at high energies in terms of Gamma and Tsallis statistics


Production of light nuclei and anti-nuclei in pp and Pb-Pb collisions at LHC energies, preprint (2015), 1506.08951 [nucl-ex].


Production of K(892)0 and Φ(1020) in pp collisions at √s = 7 TeV, Phys. Scr. 95, 075305 (2020) (13 pages).


[4926] A. Badala (ALICE Collaboration), Hadronic resonance production measured by the ALICE detector at LHC energies, EPJ Web of Conferences 95, 04002 (2015) (7 pages), doi: 10.1051/epjconf/20159504002


[4934] S. Schuchmann, Modification of \( K^0_s \) and \( \Lambda \) (\( \Lambda^- \)) transverse momentum spectra in Pb-Pb collisions at \( \sqrt{s_{NN}} = 2.76 \) TeV with ALICE, Doctor Thesis (Goethe University Frankfurt, Germany, Springer, 2017).


B. Abelev et al, (ALICE Collaboration),

T.V. Acconcia et al,

ALICE Collaboration,

ATLAS Collaboration,

Yu. V. Kharlov (ALICE Collaboration),

T.S. Biro, Z. Neda and A. Telcs,

T.S. Biro and Z. Neda,

H.R. Wei, F.H. Liu and R.A. Lacey,

F. Bellini (ALICE Collaboration),

The ALICE Collaboration,

B.C. Li, G.X. Zhang and Y.Y. Guo,

R. Lea (ALICE Collaboration),

Alice Collaboration,

T.S. Biro and Z. Neda,

Statistical power law due to reservoir fluctuations and

T.S. Biro, G.G. Barnafoldi, P. Van and K. Urmossy,

ALICE Collaboration,

L.L. Wang,

T.S. Biro, A. Telcs and Z. Neda,

The universal thermostat independence principle

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

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T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,

T.S. Biro and Z. Neda,


[5024] E. Megias, D.P. Menezes and Airton Deppman, Nonextensive thermodynamics with finite chemical potentials and protoneutron stars, EPJ Web of Conferences 80, 00040 (2014) (6 pages), 10.1051/epjconf/2014800040


L.D. Hanratti, Λ and K0S production in Pb?Pb and pp collisions with ALICE at the LHC, Doctor Thesis (University of Birmingham, School of Physics and Astronomy, June 2014).
B. De, Non-extensive statistics and understanding particle production and kinetic freeze-out process from \(p_T\)-spectra at 2.76 TeV, preprint (2014), 1409.3079 [nucl-th].


M.L. Knichel, Transverse momentum distributions of primary charged particles in pp, p-Pb and Pb-Pb collisions measured with ALICE at the LHC, Doctor Thesis (Institut für Kernphysik, Darmstadt Technische Universität, 2005).


M.L. Knichel, Transverse momentum distributions of primary charged particles in pp, p-Pb and Pb-Pb collisions measured with ALICE at the LHC, Doctor Thesis (Institut für Kernphysik, Darmstadt Technische Universität, 2005).


M.L. Knichel, Transverse momentum distributions of primary charged particles in pp, p-Pb and Pb-Pb collisions measured with ALICE at the LHC, Doctor Thesis (Institut für Kernphysik, Darmstadt Technische Universität, 2005).

S. Schumann, Modification of \(K_0 s\) and \(\Lambda(\text{Anti}\Lambda)\) Transverse Momentum Spectra in \(Pb-Pb\) Collisions at \(\sqrt{s_{NN}} = 2.76\) TeV with ALICE, Springer Thesis 71-116 (2016).


R.A. Bertens, Path length dependence of jet quenching measured with ALICE at the LHC, Doctor Thesis (Utrecht University, 2016).


R.A. Bertens, Path length dependence of jet quenching measured with ALICE at the LHC, Doctor Thesis (Utrecht University, 2016).


Is strangeness chemically equilibrated?


T.S. Biro and K. Urmossy, Pions and kaons from stringy quark matter, preprint (2008), 0812.2985 [hep-ph].


R.M. Taha, A study of acoustic wave structures propagating in dusty plasma, Master Thesis (Tanta University, Department of Physics, 2018).


A. Merriche, M. Benzekka and R. Amour, 
N.S. Saini and Shalini, N.S. Saini and A.P. Misra, 
M. Bacha and M. Tribeche, 
M. Bacha and M. Tribeche, 
A. Fodil, S. Younsi and R. Amour, 
R. Amour and M. Tribeche, 
P. Eslami, M. Mottaghizadeh and H.R. Pakzad, 
S. Choudhury and D. Banerjee, 
H.R. Pakzad, K. Javidan and A. Rafiei, 
N.S. Saini and R. Kohli, 
Shalini and N.S. Saini, 
X.L. Liu and X.Q. Li, 
N.S. Saini and Shalini, 
M. Shahmansouri and M. Tribeche, 
M. Tribeche, R. Amour and P.K. Shukla, 
M. Tribeche and P.K. Shukla, 
M. Tribeche and A. Merriche, 
A. Merriche and M. Tribeche, 
R. Amour and M. Tribeche, 
R. Amour and M. Tribeche, 
A. Merriche, L. Ait Gougam and M. Tribeche, 
A. Merriche, M. Benzekka and R. Amour, 
S. Mayout and M. Tribeche, 
R. Amour, M. Tribeche and T.H. Zerguini, 
R. Amour and M. Tribeche, 
A. Fodil, S. Younsi and R. Amour, 
M. Bacha and M. Tribeche, 
M. Bacha and M. Tribeche, 
M. Bacha and M. Tribeche.


S. Choudhury and D. Banerjee, Propagation and interaction of dust ion acoustic solitary waves (DIASWs) for the damped forced modified Korteweg-de-Vries-Burger equation at some critical composition of parameters, Plasma Res. Express 2, 035007 (2020), doi: 10.1088/2631-1067/aba5a


A. Merriche, L. Ait Gougam and M. Tribeche, Head-on collision of two ion-acoustic solitary waves in plasmas with electrons described by Tsallis distribution, Physica A 442, 409-416 (2016).


S. Ghebache, Contribution a l’ etude des oscillations non lineaires d’un plasma magnetise, Doctor Thesis (Faculte de Physique, Universite Boumediene, Alger, 2019).


S. Bansal and M. Aggarwal, Electron-acoustic shock waves in cylindrical and spherical geometry with non-extensive electrons, Physics Reports 45 (11), 91-96 (2019).


References


D.R. Borgohain and K. Saharia, *Plasma sheath with two temperature $q$-nonextensive electron distribution, communication (2017).*


[5890] L.A. Trevisan, A nonextensive statistical model for the nucleon structure function, communicated at the XXXIV Congresso Paulo Leal Ferreira de Fisica (19-21 October 2011, Sao Paulo).


A. Badala, *Overview of ALICE results on hadronic resonance production*, EPJ Web of Conferences 142, 01004 (2017) (6 pages), doi: 10.1051/epjconf/201714201004


G. Wilk, *High energy collisions from nonequilibrium perspective*, communicated at the X Polish Workshop on Relativistic Heavy-Ion Collisions “Unreasonable effectiveness of statistical approaches to high-energy collisions” (Kielce, Poland, 13-15 December 2013).

G. Wilk, *Surprisingly close Tsallis fits to high transverse momentum hadrons produced at LHC*, communicated at the IX Workshop on Correlation and Femtoscopy (5-8 November 2013, Acireale, Italy).


[6042] CMS Collaboration, Measurement of $\Lambda_b$ cross section and the $\bar{\Lambda}_b$ to $\Lambda_b$ ratio with $J/\psi \Lambda$ decays $\sqrt{s} = 7$ TeV, Phys. Lett. B 714, 136-157 (2012).


[6095] LHCb Collaboration, Study of the production of $\Lambda_b^0$ and $\bar{B}^0$ hadrons in pp collisions and first measurement of the $\Lambda_b^0 \rightarrow J/\psi pK^-$ branching fraction, Chinese Physics C 40 (1), 011001 (2016) (16 pages).


[6101] F. Sikler (CMS Collaboration), Identified particles in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV measured with the CMS detector, Nuclear Physics A 926, 128-135 (2014).


[6253] D. Prenga, M. Ifti and S. Kovaci, Extended views on the study of out-of-equilibrium opinion and opinion-like systems, The International Physics Conference Tirana 2015, 43-48 (University of Tirana, Faculty of Natural Sciences, Department of Physics, 2015).


D. Ferrari and D. La Vecchia, On robust estimation via pseudo-additive information, Biometrika 99 (1), 238-244 (2012).


D.R. Bickel, Time-series intermittency quantified by generalized entropy: An alternative to multifractal analysis, communicated at the "International Workshop on Classical and Quantum Complexity and Nonextensive Thermodynamics" (Denton, Texas, 3-6 April 2000).


M. Yasuda, Q-increment deterministic annealing fuzzy c-means clustering using Tsallis entropy, 11th International Conference on Fuzzy Systems and Knowledge Discovery, FSKD 2014, Article number 6980802, Pages 31-35 (Xiamen, China, 19 to 21 August 2014).


Y. Kanzawa, On possibilistic clustering methods based on Shannon/Tsallis-entropy for spherical data and categorical multivariate data, Chapter Modeling.


[6516] Z. Liu, Z. Han, Y. Zhang and Q. Zhang, Multiwavelet packet entropy and its application in transmission line fault recognition and classification, IEEE Transactions on Neural Networks and Learning Systems 25 (11), 2043-2052 (2014), doi: 0.1109/TNNLS.2014.2303086


[6521] D. Strzalka, Initial results of testing some statistical properties of hard disks workload in personal computers in terms of non-extensive entropy and long-range dependencies, Entropy 19, 335 (2017) (19 pages), doi: 10.3390/e19070335


[6545] A.C. Sparavigna, *Graphs of q-exponentials and q-trigonometric functions*, HAL hal-01377262 (2016), doi: hal.archives-ouvertes.fr/hal-01377262


250


[6819] C. Tsallis and D.A. Stariolo, Generalized simulated annealing, Physica A 233, 395 (1996); a preliminary version appeared (in English) as Notas de Fisica/CBPF 026 (June 1994).


F. Ming, Y. Yang, A. Zeng and B. Zhao, Decomposition of geodetic time series: A combined simulated annealing algorithm and Kalman filter approach, Advances in Space Research (2019), in press.


F. Ming, Y. Yang, A. Zeng and B. Zhao, Decomposition of geodetic time series: A combined simulated annealing algorithm and Kalman filter approach, Advances in Space Research (2019), in press.


S.A. Jacobs and R.A. Marsland, Constellation recovery and impairment evaluation through minimization of the blind EVM, Optics Express 24 (19), 21708 (2016) (14 pages).


S. Atsawaraungsuk and N. Thipayang, q-Gaussian activation function circular extreme learning machine, IEEE 9th International Conference on Knowledge and Smart Technology 56-60 (2017).


M.V. Jankovic, Quantum low entropy based associative reasoning – QLEAR learning, preprint (2017), arxiv 1705.10503


J.P. Oyardo, A.M. Costa, and L.L. Amaral, Reconstruccion de espectros de aceleradores lineales clinicos, X Congreso Regional Latinoamericano IRPA de Proteccion y Seguridad Radiologica “Radioproteccion: Nuevos Desafios para un Mundo en Evolucion ” (Buenos Aires, 12 al 17 de abril, 2015, Sociedad Argentina de Radioproteccion)

M.V. Jankovic, Quantum low entropy based associative reasoning – QLEAR learning, preprint (2017), arxiv 1705.10503


J.P. Oyardo, A.M. Costa, and L.L. Amaral, Reconstruccion de espectros de aceleradores lineales clinicos, X Congreso Regional Latinoamericano IRPA de Proteccion y Seguridad Radiologica “Radioproteccion: Nuevos Desafios para un Mundo en Evolucion ” (Buenos Aires, 12 al 17 de abril, 2015, Sociedad Argentina de Radioproteccion)


[7010] E. Farkash, Structural prediction of flexible molecular interactions, Doctor Thesis (Tel Aviv University, 2012).


S.A. Shaikh and H. Kitagawa, Continuous outlier detection on uncertain data streams, preprint (Tsukuba University, 2014).


W.V. de Abreu, Solucao analitica da funcao de alargamento Doppler usando a distribuicao de Kaniadakis, Doctor Thesis (COPPE, Universidade Federal do Rio de Janeiro, Brazil, 2020).


H. Shimodaira, Automatic color image segmentation using a square elemental region-based seeded region growing and merging method, preprint (2017), arxiv 1711.09352


K. Hua and D.A. Simovici, Dual criteria determination of the number of clusters in data, IEEE SYNASC (2018).


P. Berezinski, Entropy-based network anomaly detection, Doctor Thesis (Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering, Krakow, 2015).


J.S. Shiner and M. Davison, Quantifying the connectivity of scale-free and biological networks, Chaos, Solitons and Fractals 21, 1 (2004).


Z. Ma, Measuring microbiome diversity and similarity with Hill numbers, Metagenomics, 157-178 (2017), doi: linkhub.elsevier.com/retrieve/pii/B978008102268900 0082


F. Montani, Neural population activity: finding simplicity in complexity, communicated at Medyfinol 2014 (Maceio, Brazil, 13 to 16 October 2004).

N. Ding, Statistical machine learning in the T-exponential family of distributions, Doctor Thesis (Purdue University, 2013).


275

[7245] A.V. Kolesnichenko, Jeans instability of the protoplanetary circumstellar disk taking into account the magnetic field and radiation in the nonextensive Tsallis kinetics, (2021) [In Russian], doi: 10.20948/prepr-2021-4

[7246] A.V. Kolesnichenko and M.Y. Marov, The scenario of the accelerated expansion of the Universe under the influence of entropic forces associated with the entropies of Tsallis-Cirto and Barrow, (2020, doi: 10.20948/prepr-2020-105 [In Russian].


[7334] Swarm - ESA, Results of the first part of INTENS project, ESA/Contract No.4000125663/18/I-NB (2021)


280


A.C. Sparavigna, Bi-level image thresholding obtained by means of Kaniadakis entropy, preprint (2015), arXiv 1502.04500


A.C. Sparavigna and R. Marazzato, Effects of GIMP Retinex filtering evaluated by the image entropy, preprint (2015), 1512.05653

A.C. Sparavigna and R. Marazzato, Evaluation of GIMP retinex filtering of images by means of the Shen++ Max Shannon entropy finder, hal-01308434 (2016), hal.archives-ouvertes.fr/hal-01308434


A.C. Sparavigna, Mutual information and nonadditive entropies: The case of Tsallis entropy, Internat. J. Sciences 4 (10), 1-4 (2015), ISSN 2305-3925


A.C. Sparavigna, Entropies and fractal dimensions, Philica.com, 559 (2016).


284


[7499] F. Nie, *A three-level thresholding technique based on nonextensive entropy and fuzzy partition with artificial bee colony algorithm*, Internat. J. Hybrid Information Technology **8** (7), 1-10 (2015), doi: http://dx.doi.org/10.14257/ijhit.2015.8.7.01


Are all highly liquid securities within the same class? 

On superstatistical multiplicative-noise processes. 

On anomalous distributions in intra-day financial time series and non-extensive statistical mechanics. 

On discrete stochastic processes with long-lasting time dependent variance. Analytical and numerical analyses. 

On the distribution of high-frequency stock market traded volume: A dynamical scenario, preprint (2005) [cond-mat/0502337]. 


F. Vallianatos, Could complexity theory and statistical physics be used to support earthquake precursors recognition?, 35th General Assembly of the European Seismological Commission, ESC2016-634 (2016).


Nonextensive analysis of seismic sequences [7827] by the 6 April 2009 earthquake (ML = 5.8) [7828] during the Holocene epoch [7829] vegetation patterns in southern Lithuania indicate astronomical forcing on the millennial and centennial time scales [7830], preprint (2018), arxiv 1804.07123 [7831], preprint (2021), 2103.06434 [cs.CL].


Topical language generation using transformers, preprint (2021), 2103.06434 [cs.CL].


Unfolding the procedure of characterizing recorded ultra low frequency, kHz and MHz electromagnetic anomalies prior to the L’Aquila earthquake as pre-seismic ones. Part I [7836] and Part II [7837], Natural Hazards and Earth System Sciences 10, 275-294 (2009).

Unfolding the procedure of characterizing recorded ultra low frequency, kHz and MHz electromagnetic anomalies prior to the L’Aquila earthquake as pre-seismic ones - Part 2, Natural Hazards and Earth System Sciences 10, 275-294 (2009).

Topical language generation using transformers, preprint (2021), 2103.06434 [cs.CL].


Linking non-extensive entropy with Lempel-ziv complexity to obtain the entropic Q-index from EEG signals, 10th International Conference on Bio-inspired Systems and Signal Processing 4, 101-105, Biosignals (2017), doi: 10.5220/0006077901010105


Observation and measurement of low frequency, kHz and MHz electromagnetic anomalies prior to the L'Aquila earthquake as pre-seismic ones - Part 2, Natural Hazards and Earth System Sciences 10, 275-294 (2009).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).


Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).

Nonextensive analysis of crustal seismicity in Taiwan [7826], Tectonophysics 494, 155-162 (2010).


K. Chochlaki and F. Vallianatos,
Z.S. Khozani and W.H.M.W. Mohtar,
Z.S. Khozani and H. Bonakdari,
M. Moazamnia and H. Bonakdari,
K.Ghoshal, M. Kumbhakar and V.P. Singh,
H. Cui and V.P. Singh,
H. Cui and V.P. Singh,
R. Remya and K. Unnikrishnan,
D. Nikolopoulos, E. Petraki, E. Vogiannis, Y. Chaldeos, P. Yannakopoulos, S. Kottou, C. Nomicos and J. O. Sotolongo-Costa,
I.A. Esquef, Ma.P. de Albuquerque and M.P. de Albuquerque,
S.M. Papalexiou and D. Koutsoyiannis,
F.J. Esquivel and J.M. Angulo,
G. Gervino, C. Cigolini, A. Lavagno, C. Marino, P. Prati, L. Pruitti and G. Zangari,
O. Sotolongo-Costa and A. Posadas,
S. Abe and N. Suzuki,
H. Cui and V.P. Singh,
R.A. Costa-Junior, R.R. Rosa, A.P. Mattedi and F.M. Ramos,
A.M. Hamza,
E. Petraki, D. Nikolopoulous, A. Fotopoulous, D. Panagiotaras, C. Nomicos, P. Yannakopoulos, S. Kottou, A. Zisos, A. Louizi and J. Stonham,
P. Kumbhar, K. Ghoshal and V.P. Singh,
V.P. Singh and H. Cui,
D. Nikolopoulous, E. Petraki, E. Vogiannis, Y. Chaldeos, P. Yannakopoulos, S. Kottou, C. Nomicos and J. Stonham,
K. Chochlaki, G. Michas and F. Vallianatos,
E. Petraki, D. Nikolopoulos, A. Fotopoulous, D. Panagiotaras, C. Nomicos, P. Yannakopoulos, S. Kottou, A. Zisos, A. Louizi and J. Stonham,
P. Kumbhar, K. Ghoshal and V.P. Singh,
V.P. Singh and H. Cui,
D. Nikolopoulous, E. Petraki, E. Vogiannis, Y. Chaldeos, P. Yannakopoulos, S. Kottou, C. Nomicos and J. Stonham,
K. Chochlaki, G. Michas and F. Vallianatos,
E. Petraki, D. Nikolopoulos, A. Fotopoulous, D. Panagiotaras, C. Nomicos, P. Yannakopoulos, S. Kottou, A. Zisos, A. Louizi and J. Stonham,
P. Kumbhar, K. Ghoshal and V.P. Singh,
V.P. Singh and H. Cui,
D. Nikolopoulous, E. Petraki, E. Vogiannis, Y. Chaldeos, P. Yannakopoulos, S. Kottou, C. Nomicos and J. Stonham,
K. Chochlaki, G. Michas and F. Vallianatos,

Comparative results from monitoring in Lesvos Island and Ileia (Greece), J. Radioanal. Nucl. Chem.
Spatial Statistics eruption in El Hierro
conditions convection-diffusion

D. Koutsoyiannis, The scaling properties in the distribution of hydrological variables as a result of the maximum entropy principle, communicated at European Geosciences Union General Assembly (24-29 April 2005, Vienna).
M. Kumbhakar, K. Ghoshal and V.P. Singh, Renyi entropy and random walk hypothesis to study suspended sediment concentration, J. Hydrol. Eng., 22 (8), 04017027 (2017) (15 pages).


[8377] G.A. Casas, F.D. Nobre and E.M.F. Curado, New type of equilibrium distribution for a system of charges In a spherically-symmetric electric field, EPL 126, 10005 (2019).


[8385] D. Bagchi and C. Tsallis, Universal sensitivity to the initial conditions of a d-dimensional Fermi-Pasta-Ulam model including long-range interactions, communicated at the International School of Complexity (2015, Erice).


[8393] C. Tsallis, The nonadditive entropy $S_q$: A door open to the nonuniversality of the mathematical expression of the Clausius thermodynamic entropy in terms of the probabilities of the microscopic configurations, in Concepts and Recent Advances in Generalized Information Measures and Statistics, eds. A.M. Kowalski, R.
On the non-extensivity in Mars geological faults

F. Vallianatos, G. Chatzopoulos

Non-extensive statistical analysis of acoustic emissions recorded in marble and cement mortar specimens under mechanical load until fracture, Entropy 22, 1115 (2020), doi: 10.3390/e22101115


