J Therm Anal Calorim (2012) 109:1–5
DOI 10.1007/s10973-011-1625-3

Citation records and some forgotten anniversaries in thermal analysis

Jaroslav Šesták

Received: 29 April 2011 / Accepted: 2 May 2011 / Published online: 27 May 2011

Abstract Extent of citation is analysed and the best citied papers mentioned accentuating Journal of Thermal analysis and Thermochimica Acta. The relevant scope of papers is uncovered and some viewpoints are shown. The sphere of kinetics appears the most cited subject matter.

Keywords Impact factor · Quotation responses · Best cited papers · Thermoanalytical journals · Kinetics

Preface

Ten years ago we published an assay describing the storage and citation manners utilized in the sphere of scientific literature [1] noting *if the aim of science is pursuit of truth, then the pursuit of information may even drive people from science*. In 1978, American E. Garfield became a founder of the Institute for Scientific Information (ISI) and instigated an associated launching the citation and co-citation ('scientometric') databasing. Since that the demand for a more extensive data dissemination accelerated because most scientific evaluations account on 'publicability', which is rated according to the so-called journals' *impact factors* (IF) and the authors' *citation feedback* (responsiveness).[1] Specific databases have been established and the available records are attentively followed to provide basis for a more unprejudiced scientific appraisal though the absolutely objective assessment is yet unreachable. Most common is the ISI *Web of Science* (WOS) which is standard in providing easy accessible data on a searched journal, paper, and/or author yielding figures on the total citation and annual citation record as well as partial data on the yearly mean responsiveness (including IF and H-index). However, for older data (<1972) WOS requests application of a more specific search. In addition there is another database SCOPUS which needs somehow more concern in the process of searching and is mostly preferred when exploring more recant data (>1990). SCOPUS was factually used for finding the theme citation responsiveness in the sisters' journal [2]. For the below ascertainment of citation responses we used a caring service of the Documentation Department of the Prague Institute of Physics and its well-established links to various databases giving, nevertheless, the preference to the certificated WOS (tuning disqualification of so-called self-citations).

Written on the occasion of the April 2011 death of Joseph H Flynn, a great pioneer in the field of nonisothermal kinetics, to whom this paper is dedicated.

J. Šesták (✉)
New Technology—Research Centre in the Westbohemian Region, West Bohemian University, Universitní 8, 30114 Pilsen, Czech Republic
e-mail: sestak@fzu.cz

[1] Journal IF is from Journal Citation Report (JCR), being a product of Thomson ISI providing thus quantitative tools for evaluating journals. The IF is a measure of the frequency with which the so called 'average article' in a given journal has been cited within an agreed period of time (a three-year interval). Thus, IF can be considered to be the average number of times published papers are cited up to 2 years after publication (and in the below account we show the contemporary last year IF). The newly introduced H-index (by American physicists J. Hirsch at 2005) is used to measure the productivity of an individual (or group or institution) and is calculated by taking into account the balance between the number of publications and the number of citations per publication. For example, the author's H-index of 22 tells us that he has 22 publications which received 22 citations on each paper or more. One can trace a certain regularity that the larger number of a paper co-authors often generate improved IF increasing subsequently H-index so that the single and double authored papers are herewith more respected.

In the contribution we also took in account that in the meantime some anniversaries have taken place occurring roughly within similar years such as was the foundation of two thermoanalytical periodicals, i.e., *Journal of Thermal Analysis and Calorimetry* (JTA-1969, JTAC-1998) and *Thermochimica Acta* (TCA-1970) as well as the institutionalization of thermoanalytical confederation (ICTA-1968 and ICTAC-1994) [3–5]. Similar anniversaries are associated with the two most highly cited papers [6, 7] published in the respective journal which are the basis of following citation analysis and theme correlativeness. As a matter of curiosity the most best cited papers were related to the topic of reaction kinetics studied by means of thermal analysis.

Some tangible data and comparisons

For the JTAC (IF = 1.59) the outmost quotation reveals the paper by T. Ozawa [7] with as many as 1,053 citations, which is comparable with his other papers in the Bulletin of Chemical Society of Japan (IF = 1.63) [8] with 2096 citations or in Polymer (IF = 3.57) [9] with 1,097 citations. This is still far below the responses to the famous kinetic paper by H. E. Kissinger [10] with as many as 4,461 citations or M. Avrami [11] with 5223 citations published, respectively, in the renowned Analytical Chemistry (IF = 5.63) and Journal of Chemical Physics (IF = 3.1). The kinetic theme is followed in JTAC by the second best cited paper [12] with 444 citations, which is one of hundreds papers modifying the Kissinger method (e.g., [13]). Only the third position keeps the paper from a different area of novel techniques [14] with 301 citations (becoming widely functional, e.g., [15]), but encompassing only third time of its comparable quotation existence. Certainly we should not forget another in that time inventive instrumental paper by the brothers F. Paulik (1922–2005) and J. Paulik (1927–1988) [16] with 151 citations.

These citation figures are comparable with the output of TCA (IF = 1.74), namely with the so-called SB equation [6] exhibiting uppermost 562 responses followed by methodically oriented papers on thermoporometry [17] with 345 citations which is comparable with papers [18] and [19] with 530 and 626 citations, respectively. The third TCA place holds modulated DSC [20] with 336 citations (see also [15] with 231 citations) authored by B. Wunderlich (1932-), who is one of the most influential authors in wide spectrum of interests mostly within amorphous polymers (e.g. [21] with 317 citations). His total record of ~16000 citations and H-index ~67 is comparable with another American glass-physicists C.A. Angel (1933-) with ~21000 citations and H-index ~80.

The above two kinetic-like feedbacks [6, 7] correlate, for example, with the quotation of the widespread Jander diffusion equation [22] from Zeitschrift für anorg, Chemie (IF = 1.23) revealing 550 citations. It follows that the best cited kinetic-oriented articles [6–9, 12] have formed a reasonable basis for creation of certain kinetic school within the field of thermal analysis as showed in respective journals, e.g., JTAC [23–28] and TCA [29–33] (cited ~100× and associated with high H-factors). Moreover it reveals that Takeo Ozawa (1932-) is likely the best cited personality within the field of thermal analysis kinetics (when also accounting his wide-ranging activity in material sciences, providing his total citation record approaching ten thousand). Certainly the above figures should be correlated to the time lapse since the paper publication (i.e., early papers published before 1985) as well as with the number of overall publications, i.e., JTAC-5769 and TCA-21557 and participation of kinetic oriented articles (JTAC-1248 and TCA-1838) as well as with the mutual impact factors. Nonetheless, the entire IF values do not seemingly play a more significant function in the inherent papers' responsiveness.

For a comparison we can adopt data from another journal with a matching impact factor (IF = 1.43) and overall number of publications (17,043), which is the Journal of Non-crystalline Solids. This JNCS has also been subjecting lot of data related to reaction kinetics (equivalent portion 1033), namely to the thermal processes on nucleation and crystal growth. Here, however, the best cited paper authored by famous N. F. Mott (1906–1995) [34] was related to glass conductivity with 1,396 citations followed by structural studies [35] with 602 citations and only the third paper was related to the study of thermal properties [36] with 593 citations. This again is comparable with the early findings by the Czech-American author J. Tauc (1922-2010) [37] related to the structural subject of optical band in tetrahedral semiconductors being again one of the best cited papers of Physica Status Solids (IF = 1.15) with 1375 citations. Thermal conductivity oriented papers [34] were also revealed in the thematically related journal Physics and Chemistry of Glasses (IF = 0.58) such as the best cited papers [38, 39] with 771 and 582 citations, respectively. This PCG provided, however, highly cited papers on crystallization kinetics, for example [40–43] with 291, 243, 199, and 155 citations, respectively as well as similarly related papers in JNCS [13, 44–46] with 231, 288, 417, and 445 citations, respectively. Temperature plaid a specific role in the best cited articles in Journal of American Ceramic Society (IF = 1.94) with the historical record by the paper on viscosity [47] by Fulcher (1884–1959) exhibiting as many as 1,798 citations. In JACS there are worth noting thermoanalytically influential papers [48, 49] with 609 and 109 citations, respectively.

Thermal analysis became also the topic for utmost quotations in some leading national journals such the Czechoslovak Journal of Physics (IF = 0.57) exhibiting another record of 372 citations for the paper by A. Hrubý (1919-) [50] who applied characteristic temperatures determined by DTA for the specification of glass-forming capability of various materials. Curiously, this criterion was subjected to various modification (e.g. [51]) showing, however, their fewer correctness than the original form [50]. J. Šesták (1938-) [52] analyzed various methods of kinetic data evaluation in another local Czech journal Silikaty-Ceramics (IF = 0.66) which received another historical citation record of 61 responses and befall the basis of the consequent paper [6] becoming thus the target of various evaluations [28–32]. Another paper by M. C. Weinberg (1941–2002) [53] published in the Serbian Journal of Mining and Metallurgy (IF = 0.55) was dealing with transient nucleation and its overlapping with growth curves and exhibited maximum of 27 citations.

There are some other journals that cared to publish papers on thermoanalytical kinetics, such as in Talanta [54] (IF = 3.29 with 119 citations), Solid State Ionics [55] (IF = 2.16 with 141 citations), Journal of Computational Chemistry [56] (IF = 3.77, with 263 citations], Annual Review of Physical Chemistry [57] (IF = 17.4 with 158 citations), Nature [58] (IF = 34.48 with 161 citations), Science [59] (IF = 29.7 with 479 citations), Acta Metallurgica [60] with 471 citations) and historically famous paper by J. H. Flynn (1922–2011) in Journal of Research of the National Bureau of Standards [61] (with 769 citations). In order to have a comparison with other level of citation responses while completing this overview on the best cited papers we include some selected journals of a related scope, for example [62] (IF = 0.69), [63] (IF = 0.7), [64] (IF = 1.97), [65] (IF = 1.77), [66] (IF = 1.23), [67] (IF = 1.62), [68] (IF = 0.8), [69] (IF = 1.63) [70] (IF = 2.34) and [71] (IF = 4.39) with 319, 136, 397, 180, 274, 323, 785, 317, 571 and 243 citations, respectively.

Such citation records would be unthinkable without the diligent exertion of the editors-in-chief of thermoanalytical journals, being sorry that the society has somehow forgotten their anniversaries. The originator and long-lasting editor of Thermochimica Acta, W. W. Wendlandt (1927–2000) [72], the founder of the European Symposia on Thermal Analysis and Calorimetry and associated proceeding books "Thermal Analysis", D. Dollimore (1927–2000) as well as the early thermoanalytical ground-worker P. D. Garn (1920–1999) [73] are worth of a particular noting. They and many others [5] also contributed good reputation of the Journal of Thermal Analysis orchestrated by its lifelong editor Judit Simon (1937-). Alternatively, we did not care to seek the extreme number of citations (e.g., [74] with as many as 30,606 citations) as well as we did not try to enumerate all doyens of reaction kinetics (such as V. Šatava,1922-, C. Várhelyi, 1925-, Z. Adonyi, 1926-, V. V. Boldyrev, 1927-, H. Suga, 1930-, B. V. L'vov, L. Stoch, 1931-, E. Segal, 1932-, E. Koch, J. R. MacCallum, R. K. Agrawal, A. K. Galway, or J. Pysiak, 1933-). However, special compliments are due to the middle age generation of thermoanalysts who achieved the captivating level of 200 citation per a single paper published not more than 20 years ago (e.g., A. K. Burnham (USA), 1951- [71] (3,696 citations, Hindex = 31), M. Reading (UK), 1956- [15] (2,314 citations, H-index = 24), J. Málek (Czechia), 1959- [32] (2,166 citations, Hindex = 25), S. Vyazovkin (USA), 1960- [56] (4,350 citations, H-index = 35) or forthcoming N. Koga (Japan), 1963- [30] (~ 1000 citations, H-index ~ 17).

Curiously one of highly quoted paper [45] dealing with the application of nonisothermal kinetics to crystallization (priced by as many as 417 citations] is unfortunately revealing a misinterpretation toward the dominant responsibility of partial derivatives of rate equation and resultant kinetic constitutiveness (already beforehand discussed comprehensively in JTAC [75]). Article's rightness would also generate a question what would be a best approach in achieving a highest citation response. Even assuming a well-done manuscript matching passable for referees it, in many cases, becomes sensitive to various unwritten factors (such as interior rules, mutual reverence between the authors and referees, instantaneous actuality and perspectives of the subject, its impact and understandability, etc.). In most journals there is a large excess of manuscripts supply over their demand, which is far overcoming the journals' capability to absorb all what is offered so that some genius ideas may be overlooked. Publication boom is driven by the pressure on the authors to publish as much as possible in order to survive the competition due to assorted financing. A possibility is presumed as to create an alternative publication forum for (often refused) articles in, e.g., framework of internet, which might be likewise to a curious state of the so-called dissident physics. This unusual forum for distributing physical theories often impassable for publication in the regular journals (most common 'Physica') are consequently publishable on internet and even printed in a somehow unofficial journal such as A-peiron, Galilean Electrodynamics, Tired Light, Physics Assays, etc.

It again calls attention in the direction of the most attractive topics within the frame of thermal analysis, which besides kinetics [76] may be novel, but already well-developing special techniques [14, 15, 20]. Though difficult to predict, we can meet on the road toward new interdisciplinary targets and thus across-boundary issues somewhat inquisitive new endeavors such as thermal quantum diffusion [77, 78] or alternative caloric-based innovative thermodynamics [79, 80] which, however, not yet digested are used not to bring any citation responses so far. In this light we may be thankful to the journals editors to challenge the publications of special journal issues to exclusively devoted to the burning themes such boundless topic of thermoanalytical studies of glass crystallization [81, 82] or the book series made available by publication house Springer, such as the hot topics in thermal analysis (edited by J. Simon) [83, 84].

The above reviewed papers represent, however, a negligible portion of overall published papers in the field of thermal analysis, which in its broader view covers other thermophysical measurements (such as conductivity [34, 38, 39], viscosity [47, 49], and relaxation [36]) so that this short communication should be merely accepted as brief data revelation approached under a certain personal recollection and vision for better thermal science [85].

Acknowledgements The results were developed within the CENTEM project, reg. no. CZ.1.05/2.1.00/03.0088 that is co-funded from the ERDF within the OP RDI program of the Ministry of Education, Youth and Sports.

References

1. Fiala J, Šesták J. Databases in material science: contemporary state and future. J Thermal Anal Calor. 2000;60:1101–10.
2. Vyazovkin S, Rives V, Schick C. Making impact in thermal sciences: overview of highly cited papers published in Thermochimica Acta. Thermochim Acta. 2010;500:1–5.
3. Šesták J. Some historical aspects of thermal analysis: origins of Termanal, CalCon and ICTA. In: Klein E, Smrčková E, Šimon P, editors. Proceedings of the International Conference on Thermal Analysis "Termanal". Bratislava: Publishing House of the Slovak Technical University; 2005.
4. Šesták J. Science of heat, thermophysical studies a generalized approach to thermal analysis. Amsterdam: Elsevier; 2005.
5. Lombardi G, Šesták J. Ten years since Robert C. Mackenzie's death: a tribute to the ICTA founder. J Thermal Anal Calorim. 2011. doi:10.1007/s10973-010-1215-9.
6. Šesták J, Berggren G. Study of the kinetics of the mechanism of solid- state reactions at increasing temperatures. Thermochim Acta. 1971;3:1–12.
7. Ozawa T. Kinetic analysis of derivative curves in thermal analysis. J Thermal Anal. 1970;2:301–24.
8. Ozawa T. A new method of analyzing thermogravimetric data. Bull Chem Soc Jpn. 1965;38:1881–6.
9. Ozawa T. Kinetics of nonisothermal crystallization. Polymer. 1971;12:150.
10. Kissinger HE. Reaction kinetics in differential thermal analysis. Anal Chem. 1957;29:1702–6.
11. Avrami M. Kinetics of phase changes: general theory. J Phys Chem. 1939;7:1103–12.
12. Augis JA, Bennet JE. Calculation of Avrami parameters for heterogeneous solid-state reactions using a modification of Kissinger method. J Thermal Anal. 1978;13:283–92.
13. Criado JM, Ortega A. Nonisothermal transformation kinetics in relation to Kissinger method. J Noncryst Sol. 1988;87:302–11.
14. Reading M, Elliot D, Hill VL. A new approach to the calorimetric investigations of physical and chemical transitions. J Thermal Anal Calorim. 1993;40:949–55.
15. Reading M, Luget A, Wilson R. Modulated differential scanning calorimetry. Thermochim Acta. 1994;238:295–307.
16. Paulik F, Paulik J. Investigations under quasiisothermal and qiuasiisobaric conditions by means of derivatograph. J Thermal Anal. 1973;5:253–70.
17. Brun M, Lallemand A, Quinson JF, Eyraud C. New method for simultaneous determination of size and shape of pores–thermoporometry. Thermochim Acta. 1977;21:59–88.
18. Rouquerol J, Avnir D, Fairbridge CW. Recommendation for the characterization of porous solids. Pure Appl Chem. 1984;66: 1738–58.
19. Dollimore D, Heal GR. Improved method for calculation of pore size distribution from adsorption data. J Appl Chem USSR. 1964;14:109–19.
20. Wunderlich B, Jin YM, Boller A. Mathematical description of DSC based on periodic temperature modulations. Thermochim Acta. 1994;238:277–93.
21. Wunderlich B. Specific heat changes of glasses during glass transition. J Phys Chem. 1960;7:475–8.
22. Jander W. Reactions in the solid state at high temperature. Z Anorg Allg Chem. 1927;163:1–11 (in German).
23. Ozawa T. A modified method for kinetic analysis of thermoanalytical data. J Thermal Anal. 1976;9:369–73.
24. Ozawa T. Non-isothermal kinetics of diffusion and its application to thermal analysis. J Thermal Anal. 1973;5:563–9.
25. Ozawa T. Kinetics of growth from pre-existing surface nuclei. J Thermal Anal Calorim. 2005;82:687–90.
26. Šesták J. Philosophy of nonisothermal kinetics. J Thermal Anal. 1979;16:503–20.
27. Šesták J. Diagnostic limits of phenomenological kinetic models introducing the accommodation function. J Therm Anal. 1990; 36:1997–2007.
28. Gorbachev VM. Some aspects of Šesták's generalized kinetic equation in thermal analysis. J Therm Anal. 1980;18:193–7.
29. Málek J, Criado JM. Is the Šesták-Berggren equation a general expression of kinetic models? Thermochim Acta. 1991;175: 305–9.
30. Koga N. Kinetic analysis of thermoanalytical data by extrapolating to infinite temperature. Thermochim Acta. 1995;2158: 145–159.
31. Criado JM, Málek J, Gotor FJ. The applicability of the SB kinetic equation in constant rate thermal analysis. Thermochim Acta. 1990;158:205–13.
32. Málek J. Kinetic analysis of crystallization processes in amorphous materials. Thermochim Acta. 2000;355:239–53.
33. Šimon P. Forty years of Šestak-Berggren equation. Thermochim Acta. 2011. doi:org/10.1016/j.tca.2011.03.030.
34. Mott NF. Conduction in noncrystalline materials. J Noncryst Solids. 1968;1:1–18.
35. Phillps JC. Topology of covalent noncrystalline solids: medium-range order in chalcogenide alloys. J Noncryst Solids. 1981;43: 37–77.
36. Hodge IM. Enthalpy relaxation, recovery in amorphous materials. J Noncryst Solids. 1994;169:211–66.
37. Tauc J, Grigorovici R, Vancu A. Optical properties and electronic structure of amorphous germanium. Phys Stat Sol. 1966;15: 627–37.
38. Macedo PB, Moynihan CT, Bose R. Role of ionic diffusion in polarization vitreous conductors. Phys Chem Glass. 1972;13: 171–9.
39. Ingraham MD. Ionic-condutivity in glass. Phys Chem Glass. 1987; 28:215–34.
40. Davies HA. Formation of metallic glasses. Phys Chem Glass. 1976;17:159–73.
41. Matusita K, Sakka S. Kinetic study of crystallization by DSC. Phys Chem Glass. 1979;20:81–4.

42. James PF. Kinetics of crystal nucleation in lithium silicate glasses. Phys Chem Glass. 1974;15:95–105.
43. Šesták J. Applicability of DTA to study crystallization kinetics of glasses. Phys Chem Glass. 1974;15:137–40.
44. Matusita K, Sakka S. Kinetic study of crystallization by DTA: criterion and application of Kissinger plot. J Noncryst Sol. 1980; 3(/39):741–6.
45. Yinnon H, Uhlmann DR. Application of thermoananlytical techniques to the study of crystallization kinetics in galssforming solids. J Noncrystal Solids. 1983;54:253–75.
46. Henderson DW. Thermal analysis of nonisothermal crystallization kinetics in glass forming liquids. J Noncrystal Solids. 1979; 30:291–6.
47. Fulcher GS. Analysis of recent measurement of viscosity of glasses. J Amer Cer Soc. 1925;8:1487–510.
48. Moynihan CT, Eastel AJ, Debolt TMA. Dependence of fictive temperatures of glass on cooling rate. J Amer Cer Soc. 1976;59: 12–6.
49. Moynihan CT. Correlation between the width of the glass-transition region and the temperature dependence of glass viscosity. J Amer Cer Soc. 1993;76:1081–7.
50. Hrubý A. Evaluation of glass-forming tendency by means of DTA. Czech J Phys. 1972;B 22:1187–93.
51. Kozmidis-Petrovic A, Šesták J. Forty years of the Hrubý glass-forming criterion via DTA figures regarding the vitrification ability and glass stability. J Thermal Anal Calor. 2011 (in press).
52. Šesták J. Review of kinetic data evaluation from nonisothermal and isothermal TG data. Silikáty-Ceramics 11. 1967;11:153–90 (in Czech).
53. Weinberg MC. Examination of the temperature dependencies of crystal nucleation and growth using DTA/DSC. J Mining Metal. 1999;35:197–210.
54. Šesták J. Errors of kinetic data obtained from TG curves at increasing temperature. Talanta. 1966;13:567–85.
55. Šesták J, Málek J. Diagnostic limits of phenomenological models of heterogeneous reactions and thermal analysis kinetics. Solid State Ion. 1993;63(/65):245–54.
56. Vyazovkin S. Modification of the integral isoconversional method to account for variation in the activation energy. J Comput Chem. 2001;22:178–83.
57. Vyazovkin S, Wight CA. Kinetics in solids. Ann Rev Phys Chem. 1997;48:125–49.
58. Doyle CD. Series approximations to equation of TG data. Nature. 1965;207:290292.
59. Kopelman R. Fractal reaction kinetics. Science. 1988;241: 1620–6.
60. Atkinson HV. Theories of normal grain-growth in pure single-phase systems. Acta Metall. 1988;36:469–91.
61. Flynn JH, Wall LA. General treatment of thermogravimetry of polymers. J Res Nat Bureau Stand. 1966;A70:487–98.
62. Wang XW, Xu XF, Choi SUS. Thermal conductivity of nanoparticles. J Thermophys Heat Trans. 1999;13:503–20.
63. Sengers JV. Transport properties of fluid near critical points. Inter J Thermphys. 1985;6:203–31.
64. Picker P, Leduc PA, Philip PR. Heat capacity of solutions by flow calorimetry. J Chem Thermodyn. 1971;3:631–9.
65. Wantg XQ, Mujumdar AS. Heat transfer characteristics of nanofluids. Int J Thermal Sci. 2007;46:1–19.
66. Chen LG, Wu C, Sun FR. Finite time thermodynamic optimization or entropy minimization of energy system. J Non-equil Thermodyn. 1999;24:327–59.
67. Braun W, Herron JT, Kahaner DK. A computer program for modelling complex chemical reactions. Int J Chem Kinetics. 1988;20:51–62.
68. Tsai SW, Wu EM. General theory of strength for anisotropic materials. J Compos Mater. 1971;5:58–69.
69. Sugusaki M, Suga H, Seki S. Calorimetric study of glassy state: heat capacity of glassy water and cubic ice. Bull Chem Soc Jap. 1968;41:2591–604.
70. O'Keeffe M, Eddaudi M, Ki HL. Framework for extended solids: geometrical design principles. J Solid State Chem. 2000;152: 2–20.
71. Burnham AK. Chemical kinetic model of vitrinite maturation and reflectance. Geochim Cosmochim Acta. 1989;53:2649–2657.
72. Wendlandt WW. Thermal methods of analysis. New York: Wiley; 1964.
73. Garn PD. Thermoanalytical methods of investigation. New York: Academic; 1962.
74. Necke AD. Density functional thermochemistry. J Chem Phys. 1993;98:5648–652. Cit 30606.
75. Šesták J, Kratochvíl J. Rational approach to thermodynamic processes and constitutive equations in kinetics. J Thermal Anal. 1973;5:193–201.
76. Šimon P. The single-step approximation: attributes, strong and weak sides of kinetics. JTherm Anal Calorim. 2007;88:709–15.
77. Mareš JJ, Stávek J, Šesták J. Quantum aspects of self-organized periodical chemical reactions. J Chem Phys. 2004;121:1499.
78. Mareš JJ, Šesták J. An attempt at quantum thermal physics. J Thermal Anal Calor. 2005;82:681.
79. Mareš JJ, Hubík P, Šesták J, Špička V, Krištofik J, Stávek J. Phenomenological approach to the caloric theory of heat. Thermochim Acta. 2008;474:16.
80. Šesták J, Mareš JJ, Hubík P, Proks I. Contribution by Lazare and Sadi Carnot to the caloric theory of heat and its inspiration role in an alternative thermodynamics. J Thermal Anal Calorim. 2009; 97(2):679.
81. Šesták J editor. Vitrification, transformation and crystallization of glasses. Special issue of Thermochimica Acta, vol. 280/281. Amsterdam: Elsevier; 1996.
82. Höhne CWH, Schick C, editors. Interplay between nucleation, crystallization and the glass transition. Special issue of Thermochimica Acta, vol. 502. Amsterdam: Elsevier; 2011.
83. Šesták J, Mareš JJ, Hubík P, editors. Glassy, amorphous and nanocrystalline materials I: thermal physics, analysis, structure and properties. Berlin: Springer; 2011.
84. Šesták J, Šimon P, editors. Glassy, amorphous and nanocrystalline materials II: reaction kinetics, thermodynamics and thermal analysis. Berlin: Springer; 2012.
85. Šesták J. The man and science. Chem. Listy (Prague). 2010;104: 267−269 (in Czech).