

## Research publications

(380- books, review articles, invited chapters in the books, papers)

h-index-32.

Sum of times cited - 5,021 (from Web of Science, 09 July, 2019)

### **Books:**

1. B. S. Tsukerblat, *Group Theory in Chemistry and Spectroscopy*, Dover Pub., Mineola, New York , pp.1-448 (2006).
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3. Yu. E. Perlin, B. S. Tsukerblat, *Effects of Vibronic Interactions in the Optical Spectra of Paramagnetic Impurity Ions*, Kishinev, Pub. Acad. Sci., pp. 1-368 (1974).
4. B. S. Tsukerblat, M. I. Belinskii, *Magnetochemistry and Radiospectroscopy of Exchange Clusters*, Kishinev, Pub. Academy. Sci. pp. 1-280 (1983).

### **Main review articles and invited chapters in the books:**

5. Yu. E. Perlin, **B.S. Tsukerblat**. "Optical Bands and Polarization Dichroism of Jahn-Teller Centers", in: "Dynamical Jahn-Teller Effect in Localized Systems", Elsevier Publ. B. B. (1984) pp. 251-346, Amsterdam.
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11. J. J. Borrás-Almenar, E. Coronado, R. Georges, B. S. Tsukerblat. Localization vs. Delocalization in Molecules and Clusters: Electronic and Vibronic Interactions, *ibid.*, p p. 105-139.
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13. M.N. Nazarov, **B.S. Tsukerblat**, "Luminescent Performance of Europium and Terbium Activated Phosphors", in: *Focus on Material Science Research*, pp. 1-74, Nova Science Publishers, Inc, NY, 2006.
14. P. Kögerler, **B. Tsukerblat**, A. Müller, Structure-Related Frustrated Magnetism of Nanosized Polyoxometalates: Aesthetic Beauty and Properties in Harmony, *Dalton Transactions*, 39 (2010) 21–36 ( *invited perspective review article, cover image*).
15. **B. Tsukerblat**, S. Klokishner, A. Palii, Jahn-Teller effect in molecular magnetism: an overview, *Springer Series of Chemical Physics "The Jahn-Teller effect. Fundamentals and Implications for Physics and Chemistry"*, 2009, Vol. 97, H. Köppel, D.R. Yarkony, H. Barentzen, (Eds.), pp. 555-620.

16. A. Palii, **B. Tsukerblat**, J. M. Clemente-Juan, E. Coronado, Magnetic exchange between metal ions with unquenched orbital angular momenta: basic concepts and relevance to molecular magnetism, *International Reviews in Physical Chemistry*, 29 (2010) 135–230.
17. **B. Tsukerblat**, A. Tarantul, The nanoscopic V<sub>15</sub> cluster: an unique magnetic polyoxometalate, in: “*Molecular Cluster Magnets*”, Ed. R. Winpenny, Chapter 3, pp. 106-180, World Scientific Publishers, Singapore, 2011.
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1. A.A. Haroun, L.L. Kulyuk, V. Yu. Mirovitskii, A.N. Nateprov, A.V. Palii, V.E. Tezlevan, **B.S. Tsukerblat**, Multiphonon Optical Bands of Cr<sup>3+</sup> ion in sulphide spinels: A pseudo Jahn-Teller Model, *SPIE*, vol. 4766 (2002) 248.
2. A.V. Palii, **B.S. Tsukerblat**, M. Verdager, Orbitally dependent kinetic exchange in a heterobimetallic pair, ferromagnetic spin alignment and magnetic anisotropy in cyano-bridged Cr(III)Fe(II) dimer, *J. Chem. Physics*, 117 (2002) 7896-7905.
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  73. **B. Tsukerblat**, The nanoscopic spin frustrated cluster V<sub>15</sub>: an unique polyoxometalate, *3<sup>rd</sup> Workshop on Current Trends in Molecular and Nanoscale Magnetism*, Orlando, Florida, USA, June, 2010 (plenary, invited).
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- 82.** **B. Tsukerblat**, The models for high spin cobalt(II) ions in molecular magnetism, *IV European School on Molecular Nanoscience (ESMolNa 2011)*, Peníscola, Spain, 23-28 Oct., 2011 (*invited*).
- 83.** **B. Tsukerblat**, A. Palii, J.M. Clemente-Juan, E. Coronado, High spin cobalt(II) ions in molecular magnetic materials: theoretical modelling, *4th Workshop on "Current Trends in Molecular and Nanoscale Magnetism"* (CTMNM 2012) Chalkidiki, Greece, June 11-16, 2012 (*plenary, invited*).
- 84.** **B. Tsukerblat**, A. Palii, J.M. Clemente-Juan, A. Gaita-Ariño, E. Coronado, Electronic and vibronic problems in nanosized mixed valence clusters: advances and challenges, *XXIst International Symposium on the Jahn-Teller Effect*, 26-31 August 2012, Tsukuba, Japan (*plenary, invited*).
- 85.** V. Maslyuk, O. Farberovich, I. Mertig, **B. Tsukerblat**, Non-collinear nanomagnets: spin-frustrated Jahn-Teller systems  $\text{V}_{15}$  and  $\text{CrMn}_3$  molecules, *XXIst International Symposium on the Jahn-Teller Effect*, 26-31 August 2012, Tsukuba, Japan (*poster*).
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- 87.** **Tsukerblat**, Quantum Computing with Molecular Magnets, *Eleventh Israeli-Russian Bi-National Workshop 2012 "Optimization of the composition, structure and properties of metals, oxides, composites, nano and amorphous materials"*, Chernogolovka, Russia, 10-14 July, 2012 (*invited*).



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- 90. J.M. Clemente-Juan**, A. Gaita-Ariño, E. Coronado, A. Palii, **B. Tsukerblat**, Electric Field Control of the Spin in Mixed-Valence Magnetic Molecules, *40 International Conference on Coordination Chemistry*, Valencia, Spain, 9-13 Sept, 2012.
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- 98. B. Tsukerblat**, Vibronically assisted optical bands in metal complexes and mixed-valence compounds, Sixth European School on Molecular Nanoscience (ESMolNa- 2013), "A Workshop on 2D Materials", Cuenca, Spain, 27<sup>th</sup> Oct.-1<sup>st</sup> Nov. 2013 (*invited*).
- 99. B. Tsukerblat**, A. Palii, J.M. Clemente-Juan, E. Coronado, Electron delocalization/double exchange in polynuclear metal clusters: the theoretical approaches Workshop "Molecular Magnetism, Jujols VII", Max-Planck-Institut, Mülheim an der Ruhr, Germany, Jan. 13-17, 2014.
- 100. B.S. Tsukerblat**, A.V. Palii, J.M. Clemente-Juan, E. Coronado, Symmetry assisted approach to the non-adiabatic vibronic problem: advances and challenges, *7th International Conference on Materials Science and Condensed Matter Physics*, 16-19 September, 2014, Chişinău, Moldova
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- 104. B. Tsukerblat**, A. Palii, J.M. Clemente-Juan, E. Coronado, Electron delocalization in nanosized mixed-valence clusters: application to complex polyoxometalates, *Workshop "Current Trends in Molecular and Nanoscale Magnetism"*, May 26-29, 2014, Larnaca, Cyprus.
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- 108. B. Tsukerblat**, A. Palii, J.M. Clemente-Juan, E. Coronado, Functional polyoxometalate cluster V12: quantum inverter in one molecule, COST ACTION PoCheMoN (*Polyoxometalate Chemistry for Molecular Nanoscience*) Meeting, Paris, October 30th - 31st 2015.
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- 112. B. Tsukerblat**, Mixed valency at nanoscale, Conference "Magnetic molecules: a long lasting attraction", Florence, Italy, 14 Nov. 2016.
- 113. B. Tsukerblat**, A. Palii, J.M. Clemente-Juan, E. Coronado, Jahn-Teller effect in molecular magnetism: basic issues and new trends, *The 23<sup>rd</sup> International Symposium on the Jahn-Teller Effect*, Tartu, Estonia, Aug. 27-Sept.1, 2016.
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  121. B. Tsukerblat, Symmetry assisted approach to treat large multidimensional vibronic systems: theoretical background and some applications, European COST Workshop Working Group 3: Quantum spin science and technologies, May the 25th 2018, Tenerife, Spain.
  122. A. Palii, B. Tsukerblat, J.M. Clemente-Juan, E. Coronado, Electric field controllable magnetic coupling of localized spins mediated by itinerant electron: vibronic model, 11<sup>th</sup> European School on Molecular Nanoscience, Puerto de Santiago, Tenerife, Spain, 20<sup>th</sup> to 25<sup>th</sup> May 2018.
  123. A. Palii, B. Tsukerblat, S. Aldoshin, J. Clemente-Juan, E. Coronado Electrically switchable magnetic exchange in the vibronic model of mixed valence triferrocenium complex and multiple quantum dots, Material Technologies and Modeling: The Tenth International Conference, Ariel University, Ariel, Israel, August 20 – 24, 2018.
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Vibronic model for linear mixed valence triferrocenium complex: electric field control of superexchange, The Israeli – Russian Bi-National Workshop “*The optimization of the composition, structure and properties of metals, oxides, composites, nano and amorphous materials*”, 17 - 22 February, 2019, Ein Bokek, Israel.
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