

ENI
List of Publications
(2004-2010)

- (1) M. Abeles, Y. Ben-Shaul, R. Drori, Z. Nadasdy, M. Shemesh, O. Shmiel, T. Shmiel and M. Teicher, *Neurons of the cerebral cortex exhibit precise interspike timing in correspondence to behavior*, Proc. National Academy of Sciences **102** (2005), 18655-18657.
- (2) M. Abeles, Y. Ben-Shaul, R. Drori, Z. Nadasdy, M. Shemesh, O. Shmiel, T. Shmiel and M. Teicher, *Temporally precise cortical firing patterns are associated with distinct action segments*, Journal of NeuroPhysiology **96** (2006), 2645-2652.
- (3) M. Abeles, L. Avitan and M. Teicher, *The EEG generator - a model of potentials in a volume conductor*, Journal of Neurophysiology **102** (2009), 3046-3059.
- (4) M. Abeles, L. Avitan and M. Teicher, *Resolving the dynamics of EEG generators by multichannel recordings*, Journal of Biological Cybernetics **98** (2008), 49-59.
- (5) H. Abels, G. Margulis and G. Soifer, *The Auslander conjecture for groups leaving a form of signature $(n - 2, 2)$ invariant*, Israel J. Math. **148** (2005), 11-21.
- (6) H. Abels, G. Margulis and G. Soifer, *The linear part of an affine group acting properly discontinuously and leaving quadratic form invariant*, accepted for publication in Geometriae Dedicata.
- (7) Adi-Japha, S. Kipervasser, M. Neufeld, M. Teicher and A. Zilberstein, *Time domain source localization (TDSL) based on ictal EEG recordings*, Epilepsia **45**, Suppl. 7 (2004), 245-245.
- (8) Adi-Japha, L. Frenkel, V. Gross-Tsur, Y.E. Landau, R.S. Shalev and M. Teicher, *ADHD and dysgraphia: Underlying mechanisms*, Cortex **43** (2007), 700-709.
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- (10) R. Adin, R. Shwartz, Y. Roichman, *Major indices and perfect bases for complex reflection groups*, Electronic Journal of Combinatorics **15** (1), 2008, R61.

- (11) A. M. Akhtyamov and A. V. Mouftakhov, *Identification of boundary conditions using natural frequencies*, Inverse Probl. Sci. Eng. **12(4)** (2004), 393-408.
- (12) A. M. Akhtyamov, A. V. Mouftakhov and M. Teicher, *Identification of boundary conditions using natural frequencies in case of a ring membrane*, All-Russia School-Conference, “Fundamental Mathematics and its Applications in Natural Sciences”, Articles, Mathematics, **2**, Ufa: BashSU, (2008), pp. 32-40.
- (13) A. M. Akhtyamov, A. V. Mouftakhov, M. Teicher and L. S. Yamilova, *Can one hear fastening of a rod?* International Ufa Winter Mathematical and Physical School-Conference, vol. **I**, Ufa: BashSU, (2005), 55-71.
- (14) A. M. Akhtyamov, A. V. Mouftakhov, M. Teicher and L. S. Yamilova, *On the correctness of the inverse problem of reconstruction of non-separate boundary conditions*, International Ufa Winter Mathematical and Physical School-Conference, vol. **I**. Ufa: BashSU, (2005), 39-55.
- (15) A. M. Akhtyamov, A. V. Mouftakhov, M. Teicher and L. S. Yamilova, *On a method for determining the fixing conditions for a rectangular plate from the natural frequencies*, Mechanics of Solids **42(1)** (2007), 85–96. Original Russian Text: A. M. Akhtyamov, A. V. Muftakhov, M. Taikher, and L. S. Yamilova, 2007, published in Izvestiya Akademii Nauk. Mekhanika Tverdogo Tela, 2007, No. 1, pp. 100-113.
- (16) M. Amram, C. Ciliberto, R. Miranda and M. Teicher, *Braid monodromy factorization for a non-prime K3 surface branch curve*, Israel Journal of Mathematics, **170** (2009), 61-94.
- (17) M. Amram, M. Dettweiler, M. Friedman and M. Teicher, *Fundamental group of the complements of the Cayley’s singularities*, Beiträge zur Algebra und Geometrie, Contributions to Algebra and Geometry, **50** (2009), 469-482.
- (18) M. Amram, M. Dettweiler and M. Teicher, *On rigid covers associated to the three-cuspidal quartic*, Abhandlungen aus dem Mathematischen Seminar der Universität Hamburg **80** (1) (2010), 1-8.
- (19) M. Amram, M. Friedman and M. Teicher, *On the fundamental group of the complement of the branch curve of the second Hirzebruch surface*, Topology **48** (2009), 23-40.
- (20) M. Amram, M. Friedman and M. Teicher, *The fundamental group of the complement of the branch curve of $\mathbb{C}P^1 \times T$* , Acta Mathematica Sinica **25** (9) (2009), 1443-1458.
- (21) M. Amram, D. Garber and M. Teicher, *Fundamental groups of tangent conic-line arrangements with singularities up to order 6*, Math. Zeitschrift **256** (2007), 837-870.
- (22) M. Amram, R. Lehman, R. Schwartz, M. Teicher, *Galois covers – classification for degrees 3 and 4 surfaces*, accepted for publication in Contemporary Mathematics: Proceedings of Lib60ber Conference.

- (23) M. Amram, R. Shwartz, M. Teicher, *Coxeter covers of the classical Coxeter groups*, Internat. J. Algebra Comput. **20** (2010), 1-22.
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- (29) Y. Artzy-Randrup, Y. Berchenko and L. Stone and M. Teicher, *The big friendly giant - the giant component in clustered random graphs*, Dynamics on and of Complex Networks: Applications to Biology, Computer Science, Economics, and the Social Sciences (N. Ganguly, A. Deutsch, and A. Mukherjee, eds.), Birkhauser, Springer, Boston, 2009.
- (30) Y. Artzy-Randrup, Y. Berchenko and L. Stone and M. Teicher, *The emergence and size of the giant component in clustered random graphs with a given degree distribution*, Physical Review Letters **102** (2009), 138701.
- (31) Y. Azani, Y. Beiderman, Y. Cohen, J. Garcia, V. Mico, C. Nisankoren, M. Teicher and Z. Zalevsky, *Cleaning and quality classification of optically recorded voice signals*, Recent Patents on Signal Processing **2** (2010), 6-11.
- (32) T. Bandman, G.-M. Greuel, F. Grunewald, B. Kunyavskii, G. Pfister and E. Plotkin, *Identities for finite solvable groups and equations in finite simple groups*, Compositio Math. **142** (2006), 734–764.
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- (37) Y. Beiderman, C. Ferreira, J. Garcia, P. Garcia-Martinez, M. Teicher and Z. Zalevsky, *Three-dimensional mapping and range measurement by means of projected speckle patterns*, Applied Optics **47** (2008), 3032-3040.
- (38) Y. Beiderman, J. Garcia, S. Gingold, I. Margalit, M. Teicher and Z. Zalevsky, *Simultaneous remote extraction of multiple speech sources and heart beats from secondary speckles pattern*, Optics Express **17** (2009), 21566-21580.
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- (41) M. Belhdeb, J.Y. Kaminski and M. Teicher, *A variational approach for correspondence finding between three rectified images*, HAIT Journal of Science and Engineering, Series C **4** (2007), 178-193.
- (42) T. Ben-Itzhak and M. Teicher, *Topological algorithms for conjugation of half-twists in the braid group with application to Hurwitz equivalence*, Proceedings of the Fano Conference (A. Collina, A. Conte, M. Marchisio, eds.), 2004, pp. 209-222.
- (43) E. Ben-Jacob, I. Doron, T. Gazit, M.H. Kohrman, O. Sagher, M. Teicher and V.L. Towle, *Time-frequency characterization of electrocorticographic recordings of epileptic patients using frequency-entropy similarity: A comparison to other bivariate measures*, J. Neuroscience Methods (on line) doi: 10.1016/j.jneumeth.2010.10.011 (2010).
- (44) Y. Berchenko and M. Teicher, *Graph embedding through random walk for shortest paths problems*, Lecture Notes in Computer Science **5792**, SAGA09 (2009), 127-140.
- (45) Y. Berchenko and M. Teicher, *Greedy convex embeddings for sensor networks*, Proceedings of the 10th International Conference on Parallel and Distributed Computing, Applications and Technologies, PDCAT (2009), 402-407.
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- (47) J. Bernstein and A. Reznikov, *Estimates of automorphic functions*, Moscow Math. J. **4** (2004), 19-37, (Special issue in honor of P. Cartier).
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- (56) M. Eliyahu, D. Garber, M. Teicher, *A conjugation-free geometric presentation of fundamental groups of arrangements II: Expansion and some properties*, to appear in *IJAC (International Journal of Algebra and Computation)*.
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10.2 List of Preprints and Submitted Publications

Books – In Preparation

- (140) I. Aladova, B. Plotkin, E. Plotkin, *Algebraic Logic and Logical Geometry*, in preparation.
- (141) T. Bandman, N. Gordeev, B. Kunyavskii, E. Plotkin, *Finite Solvable Groups*, in preparation.

Preprints and Submitted Papers

- (142) M. Abeles, L. Avitan and M. Teicher, *The EEG as a function of the population dynamics of its generators*, preprint.
- (143) M. Abeles, O. Shmiel, T. Shmiel and M. Teicher, *Efficiently detecting precise firing sequences using data mining technique*, preprint.
- (144) M. Amram, D. Garber, M. Teicher, *On the fundamental group of a real conic-line arrangement with two tangent conics and arbitrary number of tangent lines*, submitted.
- (145) M. Amram, D. Garber, M. Teicher, *On the regeneration of the 8-point*, preprint.
- (146) M. Amram, D. Garber, R. Shwartz and M. Teicher, *Covers of classical D-type Artin groups*, submitted. (M12 57R17)
- (147) M. Amram, D. Garber, M. Teicher and U. Vishne, *Classification of a 6-point appearing in degenerations of algebraic surfaces*, in preparation.
- (148) M. Amram, R. Lawrence, U. Vishne, *Artin covers of the braid groups*, preprint.
- (149) M. Amram, R. Shwartz, M. Teicher, *Covers of classical D-Artin groups*, submitted.
- (150) E. Bagno, D. Garber, R. Shwartz, *On the exceedance sets of coloured permutation groups*, submitted.
- (151) T. Bandman, S. Garion, F. Grunewald, *On the surjectivity of Engel words on $PSL(2, q)$* , preprint Arxiv:1008.1397.
- (152) Y. Berchenko and M. Teicher, *A comment on "Epidemics on random graphs with tunable clustering" - variance vs. clustering*, submitted.
- (153) Y. Berchenko and M. Teicher, *The convex greedy embedding conjecture and 3-connected traceable planar graphs*, submitted.
- (154) Y. Berchenko and M. Teicher, *Sequential spreading processes and the impact of non-Poissonian activity on them*, preprint.
- (155) M. Beutel, J.Y. Kaminski and M. Teicher, *Robust estimation in dynamic vision*, in preparation.
- (156) J.-L. Colliot-Thélène and B. È. Kunyavskii, V.L. Popov, and Z. Reichstein *A rationality problem for the adjoint representation of a simple group*, in preparation.

- (157) A. Ferman, *A Note on Braid Group Actions on Semiorthonormal Bases of Mukai Lattices*, preprint, [arXiv:math.AG/0611583](https://arxiv.org/abs/math/0611583).
- (158) A. Ferman, T. Nowik, R. Schwartz and M. Teicher, *New permutation representations of the braid group*, preprint, [arXiv:math.GR/0811.4204](https://arxiv.org/abs/math/0811.4204).
- (159) P. Freitag, A. Robb and M. Teicher, *Fundamental groups of Galois covers of Hirzebruch surfaces*, in preparation.
- (160) M. Friedman, R. Lehman and M. Teicher *A note on Chisini's conjecture for generic projections*, in preparation.
- (161) M. Friedman and M. Teicher, *New restrictions for branch curves and new Zariski pairs*, submitted.
- (162) M. Friedman and M. Teicher, *On fundamental groups related to degeneratable surfaces: conjectures and examples*, submitted.
- (163) D. Garber, A. Kalka, M. Teicher, B. Tsaban, and G. Vinokur, *Cryptanalysis of a public key system based on a decomposition problem in braid groups*, in preparation.
- (164) A. Gurevich, B. Kunyavski, *Primality testing through elliptic curves and their formal completions*, in preparation.
- (165) A. Gurevich, B. Kunyavski, *Deterministic primality tests based on tori and elliptic curves*, submitted.
- (166) S. Gurevich and R. Hadani, *Self-reducibility of the Weil representation and higher dimensional quantum chaos*, submitted.
- (167) J. Hass, A. Kalka, and T. Nowik, *Complexity of relations in the braid group*, preprint: [arXiv.org/abs/0906.0137](https://arxiv.org/abs/0906.0137).
- (168) D. Garber, A. Kalka, E. Liberman, and M. Teicher, *Subgroup conjugacy problem for parabolic subgroups of braid groups*, in preparation.
- (169) A. Kalka, *Improved linear time inversion heuristic for the Burau representation*, preprint to be changed, extended and re-submitted.
- (170) A. Kalka and M. Teicher, *Anshel-Anshel-Goldfeld-like key agreement schemes for magmas and LD-systems*, in preparation.
- (171) A. Kalka and M. Teicher, *Authentication schemes for magmas and LD-systems and generalized shifted conjugacy problems in braid groups*, in preparation.
- (172) A. Kalka, M. Teicher and B. Tsaban, *Approximating shortest braid words is co-NP-complete*, in preparation.
- (173) J.Y. Kaminski, *Polynomial systems, algebraic curves and three-dimensional reconstruction from a single image*, preprint.
- (174) J.Y. Kaminski, *Multi-deformations essential matrix*, in preparation.
- (175) J.Y. Kaminski, *Efficient geometric decomposition of an algebraic variety*, in preparation.

- (176) J.Y. Kaminski, *On extensor decomposition and Chow forms*, in preparation.
- (177) J.Y. Kaminski, M. Belhdeb and M. Teicher, *Analytic shape recovery of rigid objects in dynamic scenes*, preprint.
- (178) J.Y. Kaminski, N. Faberman and M. Teicher, *Dynamic active regions*, preprint.
- (179) J.Y. Kaminski and Y. Sepulcre, *Recovering A variety from its projections on hyperplanes*, preprint.
- (180) J.Y. Kaminski and E. Shustin, *Deformation of algebraic surfaces*, in preparation.
- (181) J.Y. Kaminski and M. Teicher, *Projection générique des variétés algébriques*, preprint.
- (182) J.Y. Kaminski and M. Teicher, *Efficient projection of an algebraic variety over a generic hyperplane*, preprint.
- (183) S. Kaplan and M. Teicher, *Generalizing the Moishezon-Teicher algorithm for braid monodromy using parametrized curves*, preprint.
- (184) S. Kaplan, A. Shapiro and M. Teicher, *Several applications of Bezout matrices*, submitted.
- (185) R. Lehman and J. Solomon, *Towards a theory of Chow groups with orientations*, in preparation.
- (186) R. Lehman, *Generalized Brill-Noether divisors on the moduli space of curves with ramification conditions*, in preparation.
- (187) M. Leyenson, *On the Brill-Noether theory for K3 surfaces, II*, math.AG/0602358, <http://arxiv.org/abs/math.AG/0602358>.
- (188) E. Liberman and M. Teicher, *The fourth regeneration lemma*, submitted.
- (189) E. Liberman and M. Teicher, *The Hurwitz equivalence problem is undecidable*, submitted.
- (190) A. Shapiro and V. Vinnikov, *Rational transformations of algebraic curves and elimination theory*, preprint, math.AG/0507233.
- (191) A. Shapiro and V. Vinnikov, *Rational transformations of systems of commuting nonselfadjoint operators*, preprint - math.AG/0511075.
- (192) A. Tsurkov, *Geometrical equivalence of nilpotent torsion free groups*, preprint, <http://arxiv.org/abs/math.GR/0411313>.
- (193) A. Tsurkov, *The problem of the classification of the nilpotent class 2 torsion free groups up to geometric equivalence*, in preparation.
- (194) N. Vavilov and E. Plotkin, *Injective stability for K_1 -functor, E_6 and E_7 case*, in preparation.