

Józef Henryk Przytycki
Curriculum Vitae, Bibliography

Editor of special volumes (14 published and 5 in press or in preparation):

- (19) Co-editor (with S.Jablan, L.Kauffman and S.S.Lambropoulou) Proceedings of the Advanced School and Conference on Knot Theory and its Applications to Physics and Biology at the International Centre for Theoretical Physics, Trieste, Italy, in World Scientific Series on Knots and Everything, Vol. (not decided yet), to appear 2010 or 2011 (in preparation).
- (18) Co-editor (with M.Dabkowski, V.Harizanov, L.Kauffman and V. Ramakrishna) Proceedings of Workshop on Knots and quantum computing, University of Texas at Dallas, Volume 2, *Jour. Knot Theory Ram.*, January 2011, in preparation.
- (17) Co-editor (with M.Dabkowski, V.Harizanov, L.Kauffman and V. Ramakrishna) Proceedings of Workshop on Knots and quantum computing, University of Texas at Dallas, Volume 1, *Jour. Knot Theory Ram.*, June 2010, in preparation.
- (16) Co-editor (with Sofia Lambropoulou), Proceedings of International Conference Knots in Washington XX; 60th birthday of Louis H. Kauffman; Volume 6, in World Scientific Series on Knots and Everything, Vol. (not decided yet), to appear 2011 (in preparation).
- (15) Co-editor (with S.King, L.Kauffman, V.Manturov) Proceedings of International Workshop on “Invariants in Low Dimensional Topology” in Oberwolfach, Germany, Volume 3, *Jour. Knot Theory Ram.*, February 2010, in preparation.
- (14) Co-editor (with S.King, L.Kauffman, V.Manturov) Proceedings of International Workshop on “Invariants in Low Dimensional Topology” in Oberwolfach, Germany, Volume 2, *Jour. Knot Theory Ram.*, October 2009, to appear.
- (13) Co-editor (with S.King, L.Kauffman, V.Manturov) Proceedings of International Workshop on “Invariants in Low Dimensional Topology” in Oberwolfach, Germany, Volume 1, *Jour. Knot Theory Ram.*, June 2009, 160+ ix pages.
- (12) Co-editor (with Sofia Lambropoulou), Proceedings of International Conference Knots in Washington XX; 60th birthday of Louis H. Kauffman; Volume 5, *Jour. Knot Theory Ram.*, 16(10), December 2007, 211 + xi pages
- (11) Co-editor (with Sofia Lambropoulou), Proceedings of International Conference Knots in Washington XX; 60th birthday of Louis H. Kauffman; Volume 4. *Jour. Knot Theory Ram.*, 16(7), September 2007, 159 + xii pages.
- (10) Co-editor (with Sofia Lambropoulou), Proceedings of International Conference Knots in Washington XX; 60th birthday of Louis H. Kauffman; Volume 3. *Jour. Knot Theory Ram.*, 16(3), March 2007, 135 + viii pages.

- (9) Co-editor (with Sofia Lambropoulou), Proceedings of International Conference Knots in Washington XX; 60th birthday of Louis H. Kauffman; Volume 2. *Jour. Knot Theory Ram.*, 15(8), October 2006, 158 + v pages.
- (8) Co-editor (with Sofia Lambropoulou), Proceedings of International Conference Knots in Washington XX; 60th birthday of Louis H. Kauffman; Volume 1. In *Jour. Knot Theory Ram.*, 15(6), August 2006, 151 + xii pages.
- (7) Co-editor (with V.F.R.Jones, V. Turaev, B.Wajnryb), Proceedings of International Conference “Knots in Poland 2003”, Volume 3, *Fundamenta Mathematicae*, 190, June 2006, 297 pages.
- (6) Co-editor (with V.F.R.Jones, V. Turaev, B.Wajnryb), Proceedings of International Conference “Knots in Poland 2003”, Volume 2, *Fundamenta Mathematicae*, 188, December 2005, 340 pages.
- (5) Co-editor (with V.F.R.Jones, V. Turaev, B.Wajnryb), Proceedings of International Conference “Knots in Poland 2003”, Volume 1, *Fundamenta Mathematicae*, 184, December 2004, 353 pages.
- (4) Co-editor (with V.F.R.Jones, C.Gordon, L.Kauffman and S.Lambropoulou), Proceedings of International Conference “Knots in Hellas 98”, Volume 3, In: JKTR 10(5), August 2001, 170 pages.
- (3) Co-editor (with V.F.R.Jones, C.Gordon, L.Kauffman and S.Lambropoulou), Proceedings of International Conference “Knots in Hellas 98”, Volume 2. In: JKTR 10(2), March 2001, 175 pages.
- (2) Co-editor (with V.F.R.Jones, C.Gordon, L.Kauffman and S.Lambropoulou), Proceedings of International Conference “Knots in Hellas 98”, Volume 1. In the Series on Knots and Everything, Vol. 24, 2000, 600 pp.
- (1) Co-editor (with V.F.R.Jones, J.Kania-Bartoszyńska, V.Tuarev and P.Traczyk), Banach Center Publications, Vol. 42, “Knot Theory”, 1998, 463 pages.

LIST OF PUBLICATIONS

Józef H. Przytycki

Books

1. *Topology of 3-dimensional manifolds*, (with W.Jakobsche), Warsaw University Press, (1987), in Polish.
2. *Knots: a combinatorial approach to knot theory*, Script, Warsaw, August 1995, 240+ XLVII-Ipp., (in Polish, English translation (extended) in preparation; to be published by Cambridge University Press).
3. 14 volumes for which I was an editor (see *Editing*).

Books in preparation

1. **KNOTS:** From combinatorics of knot diagrams to the combinatorial topology based on knots, Cambridge University Press, accepted for publication, to appear 2010, pp. 600.
Chapter II, e-print: <http://arxiv.org/abs/math/0703096>
Chapter V, e-print: <http://arxiv.org/abs/math.GT/0601227>
Chapter IX, e-print: <http://arxiv.org/abs/math.GT/0602264>
Chapter X, e-print: <http://arxiv.org/abs/math.GT/0512630>
2. *Algebraic topology based on knots*, Series on Knots and Everything - Vol. 18, World Scientific, in preparation.
3. *Topology of 3-dimensional manifolds*, (with W.Jakobsche), Second edition, accepted for publication, Script, Warsaw, 2010. (in Polish)
4. Translation of the above book into Ukrainian, in preparation.

Papers published or accepted for publication

1. Some remarks on actions of Z_n -groups on 3-manifolds, *Bull. Ac. Pol. Scie. Ser. Math. Astr. Phys* XXVI (7) 1978, 625 - 633.
2. Free actions of Z_n on handlebodies and surfaces, *Bull. Ac. Pol. Scie. Ser. Math. Astr. Phys.*, XXVI (7)1978, 617-624.
3. A unique decomposition theorem for 3-manifolds with boundary, *Bull. Ac. Pol.: Math.*, XXVII (2) 1979, 209-215.
4. Z_n -actions on some 2- and 3-manifolds, Geometric Topology, Proc. Int. Conf. Warszawa 1978, 353-359 (1980).
5. Z_n actions on 3-manifolds, *Colloq. Math.* 47, 1982,199-219.
6. Actions of Z_n on some surface-bundles over S^1 , *Colloq. Math.* 47, 1982, 221-239.
7. Cyclic actions on S^2 and P^2 -bundles over S^1 , *Colloq. Math.* 47, 1982, 241-254.
8. Incompressibility of surfaces after Dehn surgery, *Michigan Math. J.* 30, 1983, 289-308.
9. Nonorientable,incompressible surfaces of genus 3 in $M_{\phi(\lambda/\mu)}$ manifolds, *Collectanea Math* XXXIV (1), 1983 ,37-79.
10. Incompressibility of surfaces with four boundary components after Dehn surgery, *Demonstratio Math.* XVII (1), 1984, 119-126.
11. Incompressible surfaces in the exterior of a closed 3 braid. I. Surfaces with horizontal boundary components (with M.Lozano), *Math. Proc. Cambridge Phil. Soc.*, 98, 1985, 275-299.
12. n -relator 3-manifolds with incompressible boundary, in: *Low-dimensional topology and Kleinian groups*, edited by D.B.A. Epstein, London Math. Soc. LNS 112 ,1986, 273-285.

13. Hyperbolic structures on Dehn fillings of some punctured-torus bundles over S^1 (with S.Betley and T.Żukowski), *Kobe J. Math.*, 3(2), 1986, 117-147.
14. Invariants of links of Conway type (with P.Traczyk), *Kobe J.Math.*, 4, 1987, 115-139.
15. Conway algebras and skein equivalence of links (with P.Traczyk), *Proc. Amer. Math. Soc.*, 100(4), 1987, 744-748.
16. t_k moves on links, *Contemporary Math.* Vol. 78, Braids - Proceedings of the Santa Cruz conference on Artin's braid groups (July 1986), 1988, 615-656;
e-print: <http://arxiv.org/abs/math.GT/0606633>
17. Plans' theorem for links: An application of t_k moves, *Canad. Math. Bull.* 31(3), 1988, 325-327.
18. t_k -equivalence of links and Conway formulas for the Jones-Conway and Kauffman polynomials, *Bull. Polish Acad. Sci. Math.*, 36(11-12), 1988, 675-680.
19. On spines of knots spaces (with W.J.R.Mitchell and D.Repovs), *Bull. Ac. Pol.: Math.*, 37, 1989, 563 - 566.
20. Knot polynomials and generalized mutation (with R.P.Anstee and D.Rolfesen) *Topology and its appl.*, 32, 1989, 237-249. e-print: <http://front.math.ucdavis.edu/math.GT/0405382>
21. An invariant of dichromatic links (with J.Hoste), *Proc. Amer. Math. Soc.*, 105(4), 1989, 1003-1007.
22. On Murasugi's and Traczyk's criteria for periodic links, *Math. Ann.*, 283, 1989, 465 - 478.
23. Equivalence of cables of mutants of knots, *Canadian Journal Math.*, XLI(2), 1989, 250-273.
24. The Skein polynomial of a planar star product of two links (with K.Murasugi), *Math. Proc. Cambridge Phil. Soc.*, 106, 1989, 273-276.
25. Positive knots have negative signature, *Bull. Ac. Pol.: Math.* 37, 1989, 559-562.
26. On lower bound for short noncontractible cycles in embedded graphs (with T.Przytycka), *SIAM J. Discr. Math.* 3(2), 1990, 281-293.
27. t_3, \bar{t}_4 moves conjecture for oriented links with matched diagrams, *Math. Proc. Cambridge Phil. Soc.*, 108, 1990, 55-61.
28. Homotopy skein modules of oriented 3-manifolds (with J.Hoste), *Math. Proc. Cambridge Phil. Soc.*, 1990, 108, 475-488.
29. Skein modules of 3-manifolds, *Bull. Ac. Pol.: Math.*; 39(1-2), 1991, 91-100;
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30. A survey of skein modules of 3-manifolds (with J.Hoste); in *Knots 90*, Proceedings of the International Conference on Knot Theory and Related Topics, Osaka (Japan), August 15-19, 1990), Editor A. Kawauchi, Walter de Gruyter 1992, 363-379.

31. Skein module of links in a handlebody, *Topology* 90, Proc. of the Research Semester in Low Dimensional Topology at OSU, Editors: B.Apanasov, W.D.Neumann, A.W.Reid, L.Siebenmann, De Gruyter Verlag, 1992; 315-342.
32. Quantum group of links in a handlebody *Contemporary Math: Deformation Theory and Quantum Groups with Applications to Mathematical Physics*, M.Gerstenhaber and J.D.Stasheff, Editors, Volume 134, 1992, 235-245.
33. Surface triangulations with long noncontractible cycles, (with T.Przytycka); *Contemporary Mathematics*, 147: Graph Structure Theory, 1993, 303-340.
34. Subexponentially computable truncations of Jones-type polynomials, (with T.Przytycka), in "Graph Structure Theory", *Contemporary Mathematics* 147, 1993, 63-108.
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36. The $(2, \infty)$ -skein module of lens spaces; a generalization of the Jones polynomial (with J. Hoste), *Journal of Knot Theory and Its Ramifications*, 2(3), 1993, 321-333.
37. An index of a graph with applications to knot theory (with K.Murasugi); *Memoirs of the American Math. Soc.*, Vol. 106, Number 508, November 1993, 101 pages.
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39. A note on the Lickorish-Millett-Turaev formula for the Kauffman polynomial, *Proc. Amer. Math. Soc.*, 121(2), 1994, 645-647.
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41. The Kauffman bracket skein module of $S^1 \times S^2$ (with J.Hoste), *Math. Z.*, 220(1), 1995, 63-73.
42. Search for different links with the same Jones' type polynomials: Ideas from graph theory and statistical mechanics, *Panoramas of Mathematics*, Banach Center Publications, Vol. 34, Warszawa 1995, 121-148. e-print: <http://front.math.ucdavis.edu/math.GT/0405447>
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45. Index of graphs and non-amphicheirality of alternating knots (with K.Murasugi), *Progress in knot theory and related topics*, Travaux en Cours, 56, Hermann, Paris, 1997; 20-28.

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47. Tangle surgeries which preserve Jones-type polynomials (with J.Hoste), *International Journal of Mathematics*, 8, 1997, 1015–1027.
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50. Skein algebra of a group (with A.S.Sikora), Banach Center Publications, Vol. 42, *Knot Theory*, 1998, 297-306.
51. Lissajous knots and billiard knots (with V.F.R.Jones), Banach Center Publications, Vol. 42, *Knot Theory*, 1998, 145-163.
52. Symmetric knots and billiard knots, Chapter 20 of the book *Ideal Knots*, Vol. 19 in Series on Knots and Everything, Ed. A.Stasiak, V.Katrich, L.Kauffman, World Scientific, 1999, 374-414.
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55. On Skein Algebras and $Sl_2(C)$ -Character Varieties, (with A.S.Sikora), *Topology*, 39(1), 2000, 115-148; e-print: <http://front.math.ucdavis.edu/q-alg/9705011>
56. Estimating the Size of Skein Homologies (with J.Kania-Bartoszyńska and A.S.Sikora), Knots in Hellas' 98; The Proceedings of the International Conference on Knot Theory and its Ramifications; Volume 1. In the Series on Knots and Everything, Vol. 24, September 2000, pp. 138-142.
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58. Polygon dissections and Euler, Fuss, Kirkman and Cayley numbers (with A.S.Sikora), *Journal of Combinatorial Theory - series A*, 92, 2000, 68-76;
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60. Kanenobu-Miyazawa conjecture and the Vassiliev-Gusarov skein modules based on mixed crossings (with K.Taniyama), *Proc. Amer. Math. Soc.*, 129(9), 2001, 2799-2802.
61. The fourth skein module and the Montesinos-Nakanishi conjecture for 3-algebraic links (with T.Tsukamoto), *J. Knot Theory Ramifications*, 10(7), 2001, 959–982;
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62. Surgeries on periodic links and homology of periodic 3-manifolds (with M.Sokolov), *Math. Proc. Cambridge Phil. Soc.*, 131(2) 2001, 295-307; e-print: <http://front.math.ucdavis.edu/0002.5231>
63. Topological Insights from the Chinese Rings (with A.S.Sikora), *Proc. Amer. Math. Soc.*, 130(3), 2002, 893–902; e-print: [math.GT/0007134](http://front.math.ucdavis.edu/math.GT/0007134)
64. The topological interpretation of the core group of a surface in S^4 (with W. Rosicki), *Canad. Math. Bull.*, 45(1), 2002, pp. 131-137; e-print: <http://arxiv.org/abs/math.GT/0403475>
65. Burnside obstructions to the Montesinos-Nakanishi 3-move conjecture, (with M.K. Dąbkowski), *Geometry and Topology*, 6, June, 2002, 355-360;
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66. 3-manifold invariants and periodicity of homology spheres, (with P.Gilmer and J.Kania-Bartoszynska), *Algebraic and Geometric Topology 2*, 2002, 825-842;
e-print: <http://xxx.lanl.gov/abs/math.GT/9807011>
67. Skein module deformations of elementary moves on links; *Geometry and Topology Monographs Volume 4: Invariants of knots and 3-manifolds (Kyoto 2001)*, 2002 (published November 2003), 313-335. <http://www.maths.warwick.ac.uk/gt/GTMon4/paper21.abs.html>
68. Skein modules; Section 4 in “Problems and invariants of knots and 3-manifolds”, *Geometry and Topology Monographs Volume 4: Invariants of knots and 3-manifolds (Kyoto 2001)*, 2002 (published June 1, 2004), 73-82;
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69. Symmetry of links and classification of lens spaces (with A.Yasuhara), *Geometriae Dedicata*, April 2003, Volume 98, Issue 1, 57-61;
e-print: <http://arxiv.org/abs/math.GT/0011119>
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71. Branched covers of tangles in three-balls (with M.Ishiwata and A.Yasuhara), *Canad. Math. Bull.*, 46(3), 2003, 356–364. e-print: <http://front.math.ucdavis.edu/0109.5046>

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73. Linking numbers in rational homology 3-spheres, cyclic branched covers and infinite cyclic covers (with A.Yasuhara), *Trans. Amer. Math. Soc.*, 356 (9), 2004, 3669-3685.
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74. From 3-moves to Lagrangian tangles and cubic skein modules, *Advances in Topological Quantum Field Theory*, Proceedings of the NATO ARW on New Techniques in Topological Quantum Field Theory, Kananaskis Village, Canada from 22 to 26 August 2001; John M. Bryden (ed), October 2004, 71-125;
e-print: <http://front.math.ucdavis.edu/math.GT/0405248>
75. Categorification of the Kauffman bracket skein module of I -bundles over surfaces, (with M.M.Asaeda and A.S.Sikora), *Algebraic & Geometric Topology (AGT)*, 4, 2004, 1177-1210;
e-print: <http://front.math.ucdavis.edu/math.QA/0403527>
76. Unexpected connection between Burnside groups and Knot Theory, (with M.K. Dąbkowski), *Proc. Nat. Acad. Science*, 101(50), December, 2004, 17357-17360;
e-print: <http://front.math.ucdavis.edu/math.GT/0309140>
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e-print: <http://front.math.ucdavis.edu/math.GT/0407183>
79. Non-left-orderable 3-manifold groups (with M.K.Dąbkowski and A.A.Togha), *Canadian Math. Bull.*, 48(1), 2005; 32-40.
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80. 3-manifolds, tangles and persistent invariants (with D.S.Silver and Susan G.Williams), *Math. Proc. Cambridge Phil. Soc.*, 139, 2005, 291-306;
e-print: <http://front.math.ucdavis.edu/math.GT/0405465>
81. Torsion in Graph Homology (with L.Helme-Guizon and Y.Rong), *Fundamenta Mathematicae*, 190; June 2006, 139-177;
e-print: <http://arxiv.org/abs/math.GT/0507245>
82. Burnside Kei (with M.Niebrzydowski), *Fundamenta Mathematicae*, 190, 2006, 211-229;
e-print: <http://front.math.ucdavis.edu/math.GT/0601004>

83. A categorification of the skein module of tangles (with. M.M.Asaeda and A.S.Sikora), *Contemporary Mathematics*, 416: Primes and Knots, 2006, 1-8;
e-print <http://front.math.ucdavis.edu/math.QA/0410238>
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e-print: <http://arxiv.org/abs/math.GT/0606264>
85. 5-move equivalence classes of links and their algebraic invariants (with M.K.Dąbkowski and M.Ishiwata), *Journal of Knot Theory and its Ram.*, 16(10), December 2007; 1413–1449;
e-print: <http://front.math.ucdavis.edu/0712.0985>
86. The Gram matrix of the Temperley-Lieb algebra is similar to the matrix of chromatic joins (with Q.Chen), *Communications in Contemporary Mathematics (CCM)*, 10, 2008, 849-855;
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87. Homology of dihedral quandles (with M.Niebrzydowski), *Journal of Pure and Applied Algebra*, 213, , 2009, 742-755;
e-print: <http://front.math.ucdavis.edu/math.GT/0611803>
88. On the first group of the chromatic cohomology of graphs, (with M.D.Pabiniak and R.Sazdanovic), *Geometriae Dedicata*, 140(1), 2009, 19-48; Published online: November 12, 2008;
e-print: <http://arxiv.org/abs/math.GT/0607326>
89. The Quandle of the Trefoil as the Dehn Quandle of the Torus (with M.Niebrzydowski), *Osaka Journal of Mathematics*, 46 (3), 2009, 645-659;
e-print: <http://front.math.ucdavis.edu/0805.2743>.
90. The Gram determinant of the type B Temperley-Lieb algebra (with Q.Chen), *Advances in Applied Mathematics*, 43, 2009, pp. 156-161;
e-print: <http://arxiv.org/abs/0802.1083>
91. Nonorientable, incompressible surfaces in punctured-torus bundles over S^1 , *Fundamenta Mathematicae*, to appear.
92. Gram determinant of planar curves (with Xiaoqi Zhu); *Involve*, Accepted for publication
e-print: <http://front.math.ucdavis.edu/0810.4649>
93. From Goeritz matrices to quasi-alternating links;
Heidelberg Knot Theory Semester Proceedings, accepted for publication, November 2009;
e-print: <http://front.math.ucdavis.edu/0909.1118>
94. When the theories meet: Khovanov homology as Hochschild homology of links, *Quantum Topology*, to appear;
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Preprints and Work in progress

1. Inductive construction of 2-connected graphs for calculating the virial coefficients (with E.Androulaki, S.Lambropoulou, I.G.Economou), submitted for publication, 2009;
e-print: <http://front.math.ucdavis.edu/0907.4906>
2. Almost positive links have negative signature (with K.Taniyama); preprint, 1991;
e-print: <http://front.math.ucdavis.edu/0904.4130>
3. Homology operations on homology of quandles (with M. Niebrzydowski);
e-print: <http://front.math.ucdavis.edu/0907.4732>
4. Gram determinant of curves on the Mobius band (with Q.Chen), in preparation.
5. Survey on recent invariants in classical knot theory, Warsaw University Preprints 6,8,9; 1986 (in English); a part of the book: *Knots: combinatorial approach to the knot theory*, 1995 (in Polish);
e-print: <http://front.math.ucdavis.edu/0810.4191>
6. Three talks in Cuautitlan under the general title: Topologia algebraica basada sobre nudos, Proceedings of the First International Workshop on "Graphs – Operads – Logic, Cuautitlan, Mexico, March 12-16, 2001, to appear 2006 (in Spanish). Publicaciones Preliminares (Preprint) 717, Instituto de Matemáticas Universidad Nacional Autónoma de México, Fecha de recibido: 7 de mayo de 2002; Presentado por Micho Durdevich.
(e-print: <http://front.math.ucdavis.edu/math.GT/0109029>)
7. Torsion in Khovanov homology of semi-adequate links (with R.Sazdanovic), in preparation.
8. Symplectic structure on Colorings, Lagrangian tangles and Tits buildings, (with J.Dymara and T.Januszkiewicz) preprint, May 2001.
9. Every link can be reduced by (2,2)- and $(\sigma_1\sigma_2)^6$ -moves (with T.Tsukamoto), in preparation.
10. A non-commutative version of the Goeritz matrix of a link (with F.Jaeger), in preparation (preliminary version, August 1995).
11. Dichromatic modules of graphs, preprint 1993 (part of this paper is in Chapter V of my book:
e-print: <http://arxiv.org/abs/math.GT/0601227>).
12. Applications of Burnside groups in Knot theory, (with M. Dąbkowski), in preparation.
13. Homology of Takasaki quandles (with M. Niebrzydowski), in preparation.
14. The Homflypt and Kauffman skein modules of the product of the torus and the interval (with M. Mroczkowski), in preparation.
15. Incompressible surfaces in the exterior of a closed 3 braid. II.Surfaces with vertical boundary components (with M.Lozano); in preparation.
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17. Hecke algebra approach to skein modules of lens spaces (with S.Lambropoulou); in preparation.
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