Scientific Publications

All peer-reviewed publications in the past 12 years

(1) S. Aouissi, D. C. Mayer, *A group theoretic approach to cyclic cubic fields*, Mathematics **12** (2024), no. 1, Special issue on Algebraic, Analytic, and Computational Number Theory and its Applications, 2nd Edition, Ed. D. Savin et al., MDPI, Basel, Switzerland, January 2024, DOI 10.3390/math12010126. (arXiv: 2310.07349v3 [math.NT] 02 Jan 2024.) [Gold OA]

(2) D. C. Mayer, *New perspectives of the power-commutator structure: Coclass trees of CF-groups and related BCF-groups*, Chapter in the Open Access Book *New Frontiers in Number Theory and Applications*, Ed. D. Savin et. al., Springer Nature AG, Cham, Switzerland, March 2024, (arXiv: 2112.15215v1 [math.GR] 30 Dec 2021.) [Gold OA]

(3) S. Aouissi, A. Azizi, M. C. Ismaili, D. C. Mayer, M. Talbi, *Structure of relative genus fields of cubic Kummer extensions*, Bol. Soc. Mat. Mex. **29** (2023), no. 81, DOI 10.1007/s40590-023-00562-8. (arXiv: 1808.04678v3 [math.NT] 13 Oct 2023.) [Green OA]

(4) D. C. Mayer, *Bicyclic commutator quotients with one non-elementary component*, Math. Bohemica **148** (2023), no. 2, 149–180, DOI 10.21136/MB.2022.0127-21. (arXiv: 2108.10754v1 [math.NT] 22 Aug 2021.) [Gold OA]

(5) D. C. Mayer, A. Soullami, *Algebraic number fields generated by an infinite family of monogenic trinomials*, Bol. Soc. Mat. Mex. **29** (2023), no. 1, DOI 10.1007/s40590-022-00469-w. (arXiv: 2204.04474v1 [math.NT] 09 Apr 2022.) [Green OA]

(6) S. Aouissi, A. Azizi, M. C. Ismaili, D. C. Mayer, M. Talbi, *Principal factors and lattice minima in cubic fields*, Kyushu J. Math. **76** (2022), 101–118, DOI 10.2206/kyushujm.76.101.

(7) D. C. Mayer, *Classifying multiplets of totally real cubic fields*, Electron. J. Math. **1** (2021), 1–40, DOI 10.47443/ejm.2021.0001. (arXiv: 2102.12187v1 [math.NT] 24 Feb 2021.) [Gold OA]

(8) D. C. Mayer, *Construction and classification of p-ring class fields modulo p-admissible conductors*, Open J. Math. Sci. **5** (2021), 162–171, DOI 10.30538/oms2021.0153. (arXiv: 2101.00979v1 [math.NT] 29 Dec 2020.) [Gold OA]

(9) A. Azizi, Y. Kishi, D. C. Mayer, M. Talbi, Mm. Talbi,
5-*class towers of cyclic quartic fields arising from quintic reflection*,
Annales Mathématiques du Québec **44** (2020), 299–328,
DOI 10.1007/s40316-019-00125-2.
(arXiv: 1909.03407v1 [math.NT] 08 Sep 2019.) [Green OA]

(10) S. Aouissi, D. C. Mayer, M. C. Ismaili, M. Talbi, A. Azizi,
3-*rank of ambiguous class groups of cubic Kummer extensions*,
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(arXiv: 1804.00767v3 [math.NT] 09 Aug 2018.) [Green OA]

(11) D. C. Mayer,
Differential principal factors and Pólya property of pure metacyclic fields,
Int. J. Number Theory **15** (2019), no. 10, 1983–2025,
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(arXiv: 1812.02436v1 [math.NT] 06 Dec 2018.) [Green OA]

(12) D. C. Mayer, *Tables of pure quintic fields*.
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(13) D. C. Mayer, *Annihilator ideals of two-generated metabelian p-groups*,
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(14) D. C. Mayer, *Co-periodicity isomorphisms between forests of finite p-groups*.
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(15) D. C. Mayer, *Modeling rooted in-trees by finite p-groups*, Chapter 5, pp. 85–113,
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Ed. B. Sirmacek, InTech d.o.o., Rijeka, January 2018,
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(16) D. C. Mayer, *Deep transfers of p-class tower groups*,
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(17) D. C. Mayer, *Successive approximation of p-class towers*,
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(18) D. C. Mayer, *Criteria for three-stage towers of p-class fields.*
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(19) A. Azizi, M. Talbi, Mm. Talbi, A. Derhem, D. C. Mayer,
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(21) D. C. Mayer, *p-Capitulation over number fields with p-class rank two*,
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(22) D. C. Mayer, *Artin transfer patterns on descendant trees of finite p-groups*,
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Special Issue on Group Theory Research, January 2016.
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(23) D. C. Mayer, *New number fields with known p-class tower*,
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(25) A. Azizi, A. Zekhnini, M. Taous, D. C. Mayer,
Principalization of 2*-class groups of type* $(2,2,2)$ *of biquadratic fields* $\mathbb{Q}(\sqrt{p_1p_2q},\sqrt{-1})$,
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(26) D. C. Mayer, *Index-p abelianization data of p-class tower groups*,
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(27) D. C. Mayer, *Periodic bifurcations in descendant trees of finite p-groups*,
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Special Issue on Group Theory, March 2015.
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(28) M. R. Bush, D. C. Mayer, 3-*class field towers of exact length* 3,
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(arXiv: 1312.0251v1 [math.NT] 01 Dec 2013.) [Green OA]

(29) D. C. Mayer, *Quadratic p-ring spaces for counting dihedral fields*,
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(30) D. C. Mayer, *Principalization algorithm via class group structure*,
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(arXiv: 1403.3839v1 [math.NT] 15 Mar 2014.) [Green OA]

(31) D. C. Mayer, *The distribution of second p-class groups on coclass graphs*,
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(32) D. C. Mayer, *Transfers of metabelian p-groups*,
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(33) D. C. Mayer, *The second p-class group of a number field*,
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(arXiv: 1403.3899v1 [math.NT] 16 Mar 2014.) [Green OA]

Important not yet peer-reviewed publications in the last 8 **years**

(1) B. Allombert, D. C. Mayer,
Cyclic cubic number fields with harmonically balanced capitulation,
Publ. Math. Besançon (2024).
(arXiv: 2307.13898v1 [math.NT] 26 Jul 2023.) [Green OA]

(2) D. C. Mayer, *Harmonically balanced capitulation over quadratic fields of type* $(9, 9)$,
(arXiv: 1908.01982v1 [math.NT] 06 Aug 2019.) [Green OA]

(3) D. C. Mayer, *The strategy of pattern recognition via Artin transfers, applied to finite towers of* 2-*class fields*,
(arXiv: 1906.00416v2 [math.NT] 20 Jun 2019.) [Green OA]

(4) D. C. Mayer, *Generalized Artin pattern of heterogeneous multiplets of dihedral fields and proof of Scholz's conjecture*,
(arXiv: 1904.06148v1 [math.NT] 12 Apr 2019.) [Green OA]

(5) D. C. Mayer, *Three-stage towers of* 5-*class fields*,
(arXiv: 1604.06930v1 [math.NT] 23 Apr 2016.) [Green OA]

The most important publications at my beginning scientific carreer

(1) D. C. Mayer, *Discriminants of metacyclic fields*,
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DOI 10.4153/CMB-1993-015-x.

(2) D. C. Mayer, *Multiplicities of dihedral discriminants*,
Mathematics of Computation **58** (1992), no. 198, 831–847,
supplements section S55–S58, DOI 10.2307/2153221.

(3) D. C. Mayer, *Principalization in complex S_3-fields*,
Congressus Numerantium **80** (1991), 73–87.

(4) D. C. Mayer, *Lattice minima and units in real quadratic number fields*,
Publicationes Mathematicae Debrecen **39** (1991), 19–86.

(5) D. C. Mayer, *Sharp bounds for the partition function of integer sequences*,
BIT Numerical Mathematics **27** (1987), no. 1, 98–110, DOI 10.1007/BF01937358.

Open accessibility:

All my papers are listed under the *Open Researcher and Contributor Identification* (ORCID)
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`http://arxiv.org/find/all/1/all:+AND+Mayer+AND+Daniel+C/0/1/0/all/0/1`