

Author: Cristina FLAUT

Title: *Contributions to the study of algebras obtained by the Cayley Dickson process and some of their applications*

Domain: MATEMATICA

PUBLICATIONS LIST

RELEVANT PAPERS

1. A. Borumand Saeid, H. Fatemidokht, **C. Flaut** and M. Kuchaki Rafsanjani, *On Codes based on BCK-algebras*, J. Intell. Fuzzy Syst, 29(5)(2015), 2133-2137
DOI: 10.3233/IFS-151688, **(yellow zone)**
<http://content.iospress.com/articles/journal-of-intelligent-and-fuzzy-systems/ifs1688?resultNumber=21&totalResults=22&start=20&q=borumand+Saeid&resultsPageSize=10&rows=10>
<http://content.iospress.com/articles/journal-of-intelligent-and-fuzzy-systems/ifs1688>
2. **Cristina Flaut**, Diana Savin, *Quaternion Algebras and Generalized Fibonacci-Lucas Quaternions*, Adv. Appl. Clifford Algebras, 25(4)(2015), 853-862. DOI: 10.1007/s00006-015-0542-0,
<http://link.springer.com/article/10.1007/s00006-015-0542-0>
3. **Cristina Flaut**, *Codes over a subset of Octonion Integers*, Results Math., 68(3)(2015), 348-359, <http://link.springer.com/article/10.1007/s00025-015-0442-6> DOI: 10.1007/s00025-015-0442-6
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4. **Cristina Flaut**, *BCK-algebras arising from block codes*, J. Intell. Fuzzy Syst., 28(4)(2015), 1829-1833, DOI: 10.3233/IFS-141469
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5. **Cristina Flaut**, *A Clifford algebra associated to generalized Fibonacci quaternions*, Adv. Differ. Equ.-NY, 2014:279, p.1-7. DOI: 10.1186/1687-1847-2014-279
<http://www.advancesindifferenceequations.com/content/pdf/1687-1847-2014-279.pdf> **(yellow zone)**
6. **Cristina Flaut**, Vitalii Shpakivskyi, *An Efficient Method for Solving Equations in Generalized Quaternion and Octonion Algebras*, Adv. Appl. Clifford Algebras, 25(2)(2015), 337-350. DOI: 10.1007/s00006-014-0493-x
<http://link.springer.com/article/10.1007/s00006-014-0493-x>
7. **Cristina Flaut**, Diana Savin, *Some examples of division symbol algebras of degree 3 and 5*, Carpathian J. Math, **31(2)(2015)**, 197-204, http://carpathian.ubm.ro/issues/abs_cjm_31_2_197-204.pdf **(yellow zone)**
8. **Cristina Flaut**, Vitalii Shpakivskyi, *Holomorphic functions in generalized Cayley- Dickson algebras*, Adv. Appl. Clifford Algebras, **25(1)(2015)**, 95-112.
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9. **Cristina Flaut**, Vitalii Shpakivskyi, *Some identities in algebras obtained by the Cayley-Dickson process*, Adv. Appl. Clifford Algebras, **23(1)(2013)**, 63-76. DOI: 10.1007/s00006-012-0344-6
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10. **Cristina Flaut**, Vitalii Shpakivskiy, *On Generalized Fibonacci Quaternions and Fibonacci-Narayana Quaternions*, Adv. Appl. Clifford Algebras, **23(3)**(2013), 673-688.
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11. **Cristina Flaut**, Vitalii Shpakivskiy, *Real matrix representations for the complex quaternions*, Adv. Appl. Clifford Algebras, **23(3)**(2013), 657-671.
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12. **Cristina Flaut**, *Levels and sublevels of algebras obtained by the Cayley–Dickson process*, Ann. Mat. Pura Appl., 192(6)(2013), 1099-1114, ISSN 0373-3114.
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13. **Cristina Flaut**, Mirela Stefanescu, *Some equations over generalized quaternion and octonion division algebras*, Bull. Math. Soc. Sci. Math. Roumanie, 52(4)(100)(2009), 427-439
14. Diana Savin, **Cristina Flaut**, Camelia Ciobanu, *Some properties of the symbol algebras*, Carpathian Journal of Mathematics, 25(2)(2009), p. 239-245, 190.
15. **Cristina Flaut**, *Cyclic codes over some special rings*, Bull. Korean Math. Soc., **50(5)**(2013), 1513-1521, DOI: 10.4134/BKMS.2013.50.5.1513
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Some properties of nonassociative algebras, defended 13 July 2013, UOC.

PATENTS

BOOKS / BOOK CHAPTERS

1. Ravi P Agarwal, **Cristina Flaut**, *An Introduction to Linear Algebra*, submitted to Springer Publisher, will appear in 2016.
2. **Cristina Flaut**, Some connections between binary block codes and Hilbert algebras, **chapter of the Springer's book series: Studies in Systems, Decision and Control**, Contributed volume: Recent Trends in Social Systems: Qualitative Theories and Quantitative Models, will appear in 2016.
3. **Cristina Flaut**, Daniel Flaut, *Notes on some diplomatic cryptosystems used in the 17th and 18th centuries*, **chapter of the Springer's book series: Studies in Systems, Decision and Control**, Contributed volume: Recent Trends in Social Systems: Qualitative Theories and Quantitative Models, will appear in 2016.
4. **Cristina Flaut**, Mirela Stefanescu, *Extinderi de campuri-Probleme- (Fields Extensions-exercises and problems)*, Ovidius University Press, 2008, ISBN: 978-973-614-451-6, 120 p., cod CNC SIS 192.
5. **Cristina Flaut**, Cristina Sburlan, Dragos Sburlan, *Teste de matematica pentru clasele VIII-XII*, Editura Ex Ponto, Constanta, 2001, ISBN: 973-8227-27-5, 206 p.
6. **Cristina Flaut**, Denis Ibadula, *Introducere in Algebra Liniara prin exercitii si probleme (Linear Algebra in exercises and problems)*, Ex Ponto, Constanta, 2003,
7. ISBN: 973-644-255-1, 278 p.

8. **Cristina Flaut**, *Clase speciale de algebre neasociative (Special Classes of Nonassociative Algebras)*, Ovidius University Press, Constanta, 2005, ISBN: 973-614-231-0

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2. **C. Flaut**, D. Savin, *About quaternion algebras and symbol algebras*, Bulletin of the Transilvania University of Brasov, **7(2)(56)(2014)**, 59-64.
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5. **Cristina Flaut**, *Isotropy of some quadratic forms and its applications on levels and sublevels of algebras*, J. Math. Sci. Adv. Appl., **12(2)(2011)**, 97-117, India, ISSN 0974-5750. [arXiv:1201.5978](http://arxiv.org/abs/1201.5978)
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6. Florian Ghionea, **Cristina Flaut**, *Un model de optimizare a liniilor de transport urban. Arondarea liniilor de transport pe autobaze*, Buletinul AGIR, *Educatie. Cercetare. Progres tehnologic*, An XVI, nr. **3/2011**. http://www.buletinulagir.agir.ro/numar_revista.php?id=60 (indexed in Index Copernicus).
7. **Cristina Flaut**, *Rational points on elliptic curves over finite fields*, Seminar Series in Mathematics: Algebra, 2008, 45-54. (**MR2487711**)
8. **Cristina Flaut**, Mirela Stefanescu, *Some applications of Peirce decomposition in generalized rings and algebras*, Italian J. of Pure and Applied Mathematics, **24(2008)**, 191-202. <http://ijpam.uniud.it/abstracts/abstract%2024-2008.pdf> (**MR2492698**, Reviewer: Consuelo Martinez; **Zbl 1198.17001**, Reviewer: Antonio Jesus Calderon Martin(Puerto Real)). prezentata la <http://www.math.unipd.it/~tonolo/brixen2006/absbrixen.pdf>
9. **Cristina Flaut**, Florian Ghionea, *Some properties of the line graph associated to a graph G*, Italian J. of Pure and Applied Mathematics, **25(2009)**, 165-174. <http://ijpam.uniud.it/abstracts/abstract%2025-2009.pdf> (**Zbl 05621063**).
10. **Cristina Flaut**, *Some primality and factoring tests*, Creative Math&Inf. **16(2007)**, pag 20-26, <http://creative-mathematics.ubm.ro/?s=7&f=2>, . (**MR2310712**; **Zbl 1174.11313**).
11. **Cristina Flaut**, *Some properties of octonion and quaternion algebras*, Acta Mathematica Academiae Paedagogicae Nyíregyháziensis, **22(2)(2006)**, 161-170.

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12. **Cristina Flaut**, *Division algebras with dimension 2^t , t in N* , Analele Stiintifice ale Universitatii "Ovidius" Constanta, Seria Matematica, **13(2)**(2006), 31-38. (**MR2229917**, Reviewer: Alberto Elduque)

13. **Cristina Flaut**, Mirela Stefanescu, *Associativity condition for some alternative algebras of degree three*, Geometry Balkan Press Bucharest: Balkan Society of Geometers. BSG Proceedings 11(2004), 121-130. (**Zbl 1108.17007**, Reviewer: Alberto Elduque (Zaragoza), **MR2117517**, Reviewer: Miguel A. Gómez Lozano)

14. **Cristina Flaut**, *Some examples of real division algebras*, Analele Stiintifice ale Universitatii "Ovidius", Constanta, **11(2)**(2003), 69–74. (**MR2135520**, Reviewer: Miguel A. Gómez Lozano)

15. **Cristina Flaut**, *Some properties of the composition algebras*, Analele Stiintifice ale Universitatii "Ovidius", Constanta, **11(1)**(2003), 93–100. (**MR2076428**)

16. **Cristina Flaut**, *Eigenvalues and eigenvectors for the quaternion matrices of degree two*, Analele Stiintifice ale Universitatii "Ovidius", Constanta, **10(2)** (2002), 39–44. (**MR2127098**, Reviewer: Gisele C. Ducati).

17. **Cristina Flaut**, *Some equation in algebras obtained by the Cayley-Dickson process*, Analele Stiintifice ale Universitatii "Ovidius", Constanta, **9(2)**(2001), 45-68. (**MR2075929**, Reviewer: Candido M. Gonzalez; **Zbl. 1084.17501**). <http://www.anstuocmath.ro/mathematics/pdf2/flaut.pdf>

18. **Cristina Flaut**, *O particularizare a reciprocei Lemei lui Schur*, Analele Stiintifice ale Universitatii "Ovidius" Constanta, Seria Matematica, **8(1)**(2000), 71-76 (Presented at S.S.M.R. Conference, May, 2000). **MR1960651**; **Zbl 1034.20500**; ISSN 1224- 1784. http://www.anstuocmath.ro/mathematics/pdf0/2000_v8_f1_new.pdf

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1. Monica Parvan, Florian Ghionea, **Cristina Flaut**, *A mathematical model of the relevant request determination in the transport problem*, Mathematics and Computer in Business and Economics, Proceedings of the 9th WSEAS International on Mathematics and Computer in Business and Economics (MCBE' 08), Bucuresti, 24-26 iunie 2008, pag. 105-111, and WSEAS TRANSACTIONS on SYSTEMS AND CONTROL, **3**(2008), Print ISSN: 1991-8763, E-ISSN: 2224-2856, 517-526.

<http://www.wseas.us/e-library/transactions/control/2008/27-428.pdf>

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2. **Cristina Flaut**, Florian Ghionea, Monica Parvan, *Optimization of urban transportation network*, Mathematics and Computer in Business and Economics, Proceedings of the 9th WSEAS International on Mathematics and Computer in Business and Economics (MCBE'08), Bucuresti, 24-26 iunie 2008, pag. 111-116.

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OTHER PAPERS / RELEVANT ACHIEVEMENTS

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1. Daniela Chendra, Cristina Flaut, Mihai Polceanu, *Teste de primalitate si de factorizare. Aplicatii*, Gazeta Matematica(Romanian Mathematical Gazette) , A series , nr. 1, 2009, pag. 37-42.
2. Cristina Flaut, C. Lupu, *Unele proprietati ale vectorilor si valorilor proprii*, Revista de Matematica si Informatica, Constanta, septembrie, 2003, pag. 4-5.
3. Cristina Flaut, *Aplicatii ale Teoremei Cayley-Hamilton*, Revista de Matematica si Informatica (Mathematics and Informatics Review-RMI), Constanta, 1 March, 2003, pag. 3-5.

Published problems

1. RMI, year III, nr. 2, September 2003, X class, problem L338, p. 41;
2. RMI, year III, nr. 1, March 2003, XII class, problem L316, p. 38;
3. RMI, year III, nr. 1, March 2003, XI class, problem L417, p. 28.
4. RMI, year II, nr. 2, April 2002, IX class , problem L161, p. 34;
5. RMI, year II, nr. 2, April 2002, X class, problem L182, p. 36;
6. RMI, year II, nr. 2, April 2002, XI class, problem L194, p. 38;

Member in:

- a. **SSMR**(Societatea de Stiinte Matematice din Romania-Mathematical Society of Romania, since 1995);
- b. **GAMM**(Gesellschaft für Angewandte Mathematik und Mechanik- **International Associations of Applied Mathematics and Mechanics**), since 2003;
- c. **AMS**(American Mathematical Society), since 2006;
- d. **EMS**(European Mathematical Society), since 2011;
- e. **MAA**(Mathematical Association of America), since 2010;
- f. **SIAM**(Society for Industrial and Applied Mathematics), since 2011;
- g. **Reviewer at Math Review**, since 2006;
- h. **Reviewer at Zentralblatt fur Mathematik**, since 2011.

INVITED REFEREE AT JOURNALS:

- i) The Royal Society of Edinburgh Proceedings A, since December 2010 (ISI journal: 2009-impact factor =0,694).
- ii) University Politehnica of Bucharest, Scientific Bulletin Series A – Applied Mathematics and Physics / Universitatea Politehnica din Bucuresti, Buletin Stiintific Seria A - Matematica si Fizica Aplicate, since July 2010 (ISI journal: 2010 impact factor =0.253).
- iii) Kuwait Journal of Science and Engineering since March 2012 (ISI journal)(2011 IF=0.055)
- iv) Adv. Appl. Clifford Algebras, (ISI Journal, 2012-IF =0.584).

- v) Journal of Symbolic Computations, ISI journal (2011-IF=0.719)
- vi) Linear and multilinear algebra, ISI journal, 2013 IF=0.7
- vii) INFORMATICA- LITHUAN, ISI journal, 2013 IF=0.901
- viii) Hacettepe journal of mathematics and statistics, 2014 IF=0.413.
- ix) The American Mathematical Monthly, 2014 IF=0.251

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