

PUBLICATIONS

ALEXANDRU BUIUM

1. RESEARCH MONOGRAPHS

- [1] Differential Function Fields and Moduli of Algebraic Varieties, Lecture Notes in Math. 1226, Springer 1986.
- [2] Differential Algebraic Groups of Finite Dimension, Lecture Notes in Math. 1506, Springer 1992.
- [3] Differential Algebra and Diophantine Geometry, Hermann, Paris, 1994.
- [4] Arithmetic Differential Equations, Mathematical Surveys and Monographs 118, AMS, 2005.

2. PUBLISHED PAPERS

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- [3] Ritt schemes and torsion theory. Pacific J. Math. 98 (1982), no. 2, 281-293.
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- [6] Sur le discriminant des sections d'une variété projective singulière par des hypersurfaces de degré élevé, C. R. Acad. Sci. Paris Sér. I Math. 298 (1984), no. 4, 67-70.
- [7] Class groups of differential function fields. J. Algebra 89 (1984), no. 1, 56-64.
- [8] On surfaces of degree at most $2n + 1$ in $\mathbb{P}^n$. Algebraic geometry (Bucharest 1982), Lecture Notes in Math., 1056, Springer, Berlin, 1984, 47-67.
- [9] Corps différentiels et modules des variétés algébriques, C. R. Acad. Sci. Paris Sér. I Math. 299 (1984), no. 19, 983-985.
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- [14] Fields of definition of algebraic varieties in characteristic zero. Compositio Math. 61 (1987), no. 3, 339-352.

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- [16] Birational moduli and nonabelian cohomology. *Compositio Math.* 68 (1988), no. 2, 175-202.
- [17] Birational moduli and nonabelian cohomology. II. *Compositio Math.* 71 (1989), no. 3, 247-263.
- [18] Dérivations sur les groupes algébriques, *C. R. Acad. Sci. Paris Sér. I Math.* 309 (1989), no. 9, 605-607.
- [19] Splitting differential algebraic groups. *J. Algebra* 130 (1990), no. 1, 97-105.
- [20] Intersections in jet spaces and a conjecture of S.Lang, *Annals of Math.* 136 (1992), 583-593.
- [21] Geometry of differential polynomial functions I: algebraic groups, *Amer J. Math.* 115, 6 (1993), 1385-1444.
- [22] Effective bound for the geometric Lang conjecture, *Duke Math. J.*, 71, 2 (1993), 475-499.
- [23] A finiteness theorem for isogeny correspondences, in: *Journées de Geometrie Algebrique d'Orsay 1992*, Asterisque 218, 1993.
- [24] (with F.Voloch) Integral points on abelian varieties over function fields of characteristic zero, *Math. Ann.* 297 (1993), 303-307.
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- [33] Geometry of p -jets, *Duke Math. J.*, 82, 2, (1996), 349-367.
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- [51] Geometry of Fermat Adeles, *Trans. AMS* 357, 3 (2005), 901-964.
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- [63] (with S. R. Simanca) Arithmetic partial differential equations II, *Advances in Math.*, 225 (2010), 1308-1340.
- [64] (with C. Ralph and S.R. Simanca) Arithmetic differential operators on $\mathbb{Z}_p$, *J. Number Theory* 131 (2011), pp. 96-105.

[65] (with J. Borger) Differential forms on arithmetic jet spaces, *Selecta Mathematica* 17, 2 (2011), pp. 301-335.

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[67] (with A.Saha) Differential overconvergence, in: *Algebraic methods in dynamical systems; volume dedicated to Michael Singer's 60th birthday*, Banach Center Publications, Vol 94, 99-129 (2011).

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3. PAPERS ACCEPTED FOR PUBLICATION

[72] Galois groups arising from arithmetic differential equations, *Séminaires et Congrès*, Soc. Math. France.

4. PAPERS SUBMITTED FOR PUBLICATION

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[74] Differential calculus with integers, arXiv:1308.5194.

[75] (with A. Saha) The first p -jet space of an elliptic curve: global functions and lifts of Frobenius, arXiv:1308.0578.

5. PREPRINTS

[76] (with T. Dupuy) Arithmetic differential equations on GL_n , I: differential cocycles, arXiv:1308.0748v1

[77] (with T. Dupuy) Arithmetic differential equations on GL_n , II: arithmetic Lie theory, arXiv:1308.0744

[78] (with T. Dupuy) Arithmetic differential equations on GL_n , III: Galois groups, arXiv:1308.0747

6. TEXTBOOKS

[79] *Mathematics: a Minimal Introduction*, Chapman and Hall, 2013.

7. OTHER PUBLICATIONS

[80] Serge Lang's early work on Diophantine and algebraic geometry, *Notices of the AMS* 54, 4 (2007), 479-484.