

## PUBLICATION LIST

LEONARDO CONSTANTIN MIHALCEA

- (1) Wei Gu, Leonardo C. Mihalcea, Eric Sharpe, Weihong Xu, Hao Zhang, and Hao Zou, *Quantum K theory of partial flag manifolds*, accepted in *J. of Geometry and Physics*, preprint available at [arXiv:2306.11094](https://arxiv.org/abs/2306.11094)
- (2) Leonardo C. Mihalcea and Rahul Singh, *Mather classes and conormal spaces of Schubert varieties in cominuscule spaces*, *Algebraic Geometry* **10** (2023), no.5., 554-575, preprint available on [arXiv:2006.04842](https://arxiv.org/abs/2006.04842).
- (3) Paolo Aluffi, Leonardo C. Mihalcea, Jörg Schürmann, and Changjian Su, *Shadows of characteristic cycles, Verma modules, and positivity of Chern-Schwartz-MacPherson classes of Schubert cells*, *Duke Math. J.* **172** (17), 3257-3320, (15 November 2023) DOI: 10.1215/00127094-2022-0101
- (4) Wei Gu, Leonardo C. Mihalcea, Eric Sharpe, and Hao Zou, *Quantum K theory of symplectic Grassmannians*, *J. of Geometry and Physics* **177** (2022), Paper No. 104548, 38 pp.
- (5) Paolo Aluffi, Leonardo C. Mihalcea, Jörg Schürmann, and Changjian Su, *Motivic Chern classes of Schubert cells, Hecke algebras, and applications to Casselman's problem*, accepted to *Annales Sci. de l'École Normale Supérieure*, available on [arXiv:1902.10101](https://arxiv.org/abs/1902.10101).
- (6) Leonardo C. Mihalcea and Changjian Su, with an Appendix joint with David Anderson, *Whittaker functions from motivic Chern classes*, *Transform. Groups* **27** (2022), no. 3, 1045 – 1067, available on [arXiv:1910.14065](https://arxiv.org/abs/1910.14065).
- (7) Paolo Aluffi, Leonardo C. Mihalcea, Jörg Schürmann, and Changjian Su, *Positivity of Segre-MacPherson classes*, *Facets of algebraic geometry. Vol. I*, 1 - 28, *London Math. Soc. Lecture Note Ser.*, 472, Cambridge Univ. Press, Cambridge, 2022.
- (8) Leonardo C. Mihalcea, Hiroshi Naruse, and Changjian Su, *Left Demazure-Lusztig operators on equivariant (quantum) cohomology and K theory*, *Int. Math. Res. Notices*, 2021, <https://doi.org/10.1093/imrn/rnab049>, available on [arXiv:math/2008.12670](https://arxiv.org/abs/math/2008.12670).
- (9) Anders Buch, Sjuvon Chung, Changzheng Li and Leonardo C. Mihalcea, *Euler characteristics in quantum K theory of flag varieties*, *Selecta Math. (N.S.)* **26** (2020), no. 2, Paper No. 29, 11 pp.
- (10) Changzheng Li, Leonardo C. Mihalcea and Ryan Shifler, *Conjecture  $\mathcal{O}$  holds for the odd symplectic Grassmannian*, *Bulletin of London Math. Society*, vol. **51**, issue 4, pages

705 – 714, 2019.

- (11) Leonardo C. Mihalcea and Ryan Shifler, *Equivariant Quantum Cohomology of the Odd Symplectic Grassmannian*, *Math. Zeitschrift*, **291** (3-4), pag. 1569-1603, 2019.
- (12) Thomas Lam, Changzheng Li, Leonardo C. Mihalcea and Mark Shimozono, *A conjectural Peterson isomorphism in K-theory*, *J. of Algebra*, 513 (2018), 326 - 343.  
doi:10.1016/j.jalgebra.2018.07.029.
- (13) Liviu Mare and Leonardo C. Mihalcea, *An affine deformation of the quantum cohomology ring of flag manifolds and periodic Toda lattice*, *Proceedings of the London Mathematical Society*, (3) vol. 116 (2018), no. 1, pag. 135 - 181.
- (14) Anders Buch, Pierre-Emmanuel Chaput, Leonardo C. Mihalcea and Nicolas Perrin, *A Chevalley formula for the equivariant quantum K-theory of cominuscule varieties*, to appear in *Algebraic Geometry*, available on arXiv:1604.07500.
- (15) Anders Buch, Pierre-Emmanuel Chaput, Leonardo C. Mihalcea and Nicolas Perrin, *Projected Gromov-Witten varieties in cominuscule spaces*, *Proc. of American Math. Society*, **146** (2018), no. 9, 3647 - 3660.
- (16) Paolo Aluffi and Leonardo C. Mihalcea, *Chern-Schwartz-MacPherson classes for Schubert cells in flag manifolds*, to appear in *Compositio Math.* **152** (2016), no. 12, 2603 - 2625.
- (17) Trevor Norton and Leonardo C. Mihalcea, *Combinatorial curve neighborhoods for the affine flag manifold of type  $A_1^1$* , to appear in *Involve*, outcome of an undergraduate research project, available at [http://www.math.vt.edu/people/lmihalce/curvenbhdsA11\(finalv\).pdf](http://www.math.vt.edu/people/lmihalce/curvenbhdsA11(finalv).pdf)
- (18) Takeshi Ikeda, Leonardo C. Mihalcea and Hiroshi Naruse, *Factorial P- and Q-Schur functions represent equivariant quantum Schubert classes*, *Osaka J. Math.* **53** (2016), no. 3, 591 - 619.
- (19) Rachel Elliott, Mark E. Lewers and Leonardo C. Mihalcea, *Quantum Schubert polynomials for the  $G_2$  flag manifold*, *Involve* **9** (2016), no. 3, 437 - 451; (outcome of an undergraduate research project).
- (20) Anders Buch, Pierre-Emmanuel Chaput, Leonardo C. Mihalcea and Nicolas Perrin, *Rational connectedness implies finiteness of quantum K-theory*, *Asian J. Math.* **20** (2016), no. 1, 117 - 122.
- (21) Leonardo C. Mihalcea, *Binomial determinants and positivity of Chern-Schwartz-MacPherson classes*, *The Australasian Journal of Combinatorics* **62** (part 2) (June 2015).
- (22) Anders Buch and Leonardo C. Mihalcea, *Curve neighborhoods of Schubert varieties*, *J. Differential Geom.* **99** (2015), no. 2, 255 – 283.

- (23) Changzheng Li and Leonardo C. Mihalcea, *K-theoretic Gromov-Witten invariants of lines in homogeneous spaces*, Int. Math. Res. Notices 2013, doi: 10.1093/imrn/rnt090.
- (24) Anders Buch, Pierre-Emmanuel Chaput, Leonardo C. Mihalcea and Nicolas Perrin, *Finiteness of cominuscule quantum K-theory*, Annales Sci. de l'École Normale Supérieure, **46**, fascicule 3 (2013), pag. 477– 494.
- (25) Anders Buch and Leonardo C. Mihalcea, *Quantum K-theory of Grassmannians*, Duke Math. Journal **156** (2011), no. 3, 501 - 538.
- (26) Takeshi Ikeda, Leonardo C. Mihalcea, and Hiroshi Naruse, *Double Schubert polynomials for the classical groups*, Advances in Math. **226** (2011), no. 1, 840 - 886.
- (27) Paolo Aluffi and Leonardo C. Mihalcea, *Chern classes of Schubert cells and varieties*, Journal of Alg. Geom. **18** (2009), no. 1, 63 - 100.
- (28) Takeshi Ikeda, Leonardo C. Mihalcea, and Hiroshi Naruse, *Double Schubert polynomials for the classical Lie groups*, 20th Annual International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2008), Discrete Math. Theor. Comput. Sci. Proc., AJ, Assoc. Discrete Math. Theor. Comput. Sci., Nancy, 2008, pp. 665 - 676.
- (29) Leonardo C. Mihalcea, *Giambelli formulae for the equivariant quantum cohomology of the Grassmannian*, Transactions of AMS **360** (2008), no. 5, 2285 - 2301.
- (30) Leonardo C. Mihalcea, *On equivariant quantum cohomology of homogeneous spaces: Chevalley formulae and algorithms*, Duke Math. J. **140** (2007), no. 2, 321 - 350.
- (31) Leonardo C. Mihalcea, *Equivariant quantum Schubert Calculus*, Adv. in Math. **203** (2006), no. 1, 1 - 33.
- (32) Leonardo C. Mihalcea, *Positivity in equivariant quantum Schubert calculus*, Amer. J. Math. **128** (2006), no. 3, 787 - 803.
- (33) Leonardo C. Mihalcea, *Equivariant quantum cohomology of homogeneous spaces*, Thesis (Ph.D.) University of Michigan. 2005. 120 pp
- (34) Gianni Ciolli and Leonardo C. Mihalcea, *A canonical resolution of the singularities of a triple covering of algebraic surfaces*, PRAGMATIC, 2001 (Catania). Matematiche (Catania) **56** (2001), no. 2, 281 - 296 (2003).

### Preprints (submitted)

- (1) Leonardo C Mihalcea, Hiroshi Naruse, Changjian Su, *Hook formula for Coxeter groups via the twisted group ring*, submitted, preprint available at arXiv:2401.06516.

## PUBLICATION LIST

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- (2) Leonardo C Mihalcea, Hiroshi Naruse, Changjian Su, *Chevalley formulae for the motivic Chern classes of Schubert cells and for the stable envelopes*, submitted, preprint available at [arXiv:2312.17200](https://arxiv.org/abs/2312.17200).
- (3) Wei Gu, Leonardo C. Mihalcea, Eric Sharpe, Weihong Xu, Hao Zhang, and Hao Zou, *Quantum K Whitney relations for partial flag manifolds*, submitted, preprint available at [arXiv:2310.03826](https://arxiv.org/abs/2310.03826)
- (4) Leonardo C. Mihalcea and Rahul Singh, *Characteristic cycles of IH sheaves of simply laced minuscule Schubert varieties are irreducible*, submitted, preprint available on [arXiv:2308.06249](https://arxiv.org/abs/2308.06249).
- (5) Paolo Aluffi, Leonardo C. Mihalcea, Jörg Schürmann, and Changjian Su, *From motivic Chern classes of Schubert cells to their Hirzebruch and CSM classes*, submitted (2022), preprint available at [arXiv:2212.12509](https://arxiv.org/abs/2212.12509).
- (6) Wei Gu, Leonardo C. Mihalcea, Eric Sharpe, and Hao Zou, *Quantum K theory of Grassmannians, Wilson line operators, and Schur bundles*, submitted, preprint available on [arXiv:2208.01091](https://arxiv.org/abs/2208.01091).
- (7) Anders Buch, Pierre-Emmanuel Chaput, Leonardo C. Mihalcea and Nicolas Perrin, *Positivity of minuscule quantum K theory*, submitted, preprint available at [arXiv:2205.08630](https://arxiv.org/abs/2205.08630).
- (8) Leonardo C Mihalcea, Hiroshi Naruse, Changjian Su, *Hook formulae from Segre-MacPherson classes*, submitted, preprint available at [arXiv:2203.16461](https://arxiv.org/abs/2203.16461).
- (9) Rebecca Goldin, Leonardo C. Mihalcea and Rahul Singh, *Positivity of Peterson Schubert Calculus*, submitted, preprint available on [arXiv:2106.10372](https://arxiv.org/abs/2106.10372).

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