

MATH HONOURS: MULTIPLE ZETA VALUES

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PRELIMINARY CONTENTS

1. Introduction to multiple zeta values (MZVs)
2. Method of partial fractions
3. Algebra of MZVs
4. Generalized polylogarithms and generating functions of MZVs
5. Duality theorem. Sum theorem and Ohno's relations
6. Quasi-shuffle products. Derivations
7. q -Analogues of MZVs
8. Other extensions and open questions

RESOURCES AND LINKS

- [1] [EZ-Face](#)
- [2] [Michael Hoffman's site](#) contains some basic information about the MZVs. Hoffman also has a [comprehensive list of references on MZVs and related stuff](#)
- [3] Jonathan M. Borwein, David M. Bradley, David J. Broadhurst, and Petr Lisonek, “[Special values of multidimensional polylogarithms](#),” *Trans. Amer. Math. Soc.* **353** (2001), 907–941
- [4] Wadim Zudilin, “[Algebraic relations for multiple zeta values](#),” *Russian Math. Surveys* **58**:1 (2003), 1–29
- [5] Jonathan M. Borwein and David M. Bradley, “[Thirty Two Goldbach Variations](#),” *Int. J. Number Theory* **2**:1 (2006), 65–103
- [6] David M. Bradley, “[Multiple \$q\$ -Zeta Values](#),” *Journal of Algebra* **283**:2 (2005), 752–798