

Exposé court

149 *Global series for height 1 multiple zeta functions*

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We use everywhere-convergent series for the height 1 multiple zeta functions $\zeta(s, 1, \dots, 1)$ to determine the singular parts of their Laurent series at each of their poles, and give an expression for each first “Stieltjes constant” (i.e., the linear Laurent coefficient) as series involving the Bernoulli numbers of the second kind, generalizing the classical Mascheroni series for Euler’s constant γ . The first Stieltjes constants at $s = 1$ and at $s = 0$ are then interpreted in terms of the Ramanujan summation of multiple harmonic star sums $\zeta^*(1, \dots, 1)$.