Miller, Steven J.

An identity for sums of polylogarithm functions. (English) Zbl 1202.11037
Integers 8, No. 1, Article A15, 10 p. (2008).

Summary: We derive an identity for certain linear combinations of polylogarithm functions with negative exponents, which implies relations for linear combinations of Eulerian numbers. The coefficients of our linear combinations are related to expanding moments of Satake parameters of holomorphic cuspidal newforms in terms of the moments of the corresponding Fourier coefficients, which has applications in analyzing lower order terms in the behavior of zeros of $L$-functions near the central point.

MSC:

11G55 Polylogarithms and relations with $K$-theory
33B30 Higher logarithm functions
11M26 Nonreal zeros of $\zeta(s)$ and $L(s, \chi)$; Riemann and other hypotheses

Software:

OEIS

Full Text: arXiv EuDML EMIS