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Higher Euler-Kronecker coefficients

The coefficients that appear in the Laurent series of Dedekind zeta functions and their logarithmic derivatives, about $s = 1$, are mysterious and seem to contain a lot of arithmetic information. Although the residue and the constant term have been widely studied, not much is known about the higher coefficients. In this talk, we present some results about these coefficients $\gamma_{K,n}$ that appear in the Laurent series expansion of $\frac{\zeta_K'(s)}{\zeta_K(s)}$ about $s = 1$, where K is a global field. For example, when K is a number field, we prove, under GRH, (if d_K is the absolute discriminant of K)

$$\gamma_{K,n} \ll (\log(\log(|d_K|))^{n+1}$$