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Symbol Alphabets from the Landau Singular Locus

Tuesday 12 December 2023 10:45 (30 minutes)

I present work which provides evidence through two loops that rational letters of polylogarithmic Feynman integrals are captured by the Landau equations, when the latter are recast as a polynomial of the kinematic variables of the integral, known as the principal A-determinant. Focusing on one loop, I further discuss how all square-root letters may also be obtained, by re-factorizing the principal A-determinant with the help of Jacobi identities. The letters are verified by explicitly constructing canonical differential equations for the one-loop integrals in both odd and even dimensions of loop momenta.

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