Selection rule of canonical differential equations from Intersection theory

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Symbolology is the language that organizes the analytic structure of Feynman integrals and is encoded in the canonical differential equations. Using the d log-bases and simple formulas of intersection numbers, we give an algebraic procedure to compute the entries in the coefficient matrix of CDE, including the symbol letters and the rational coefficients. We also provide a selection rule to decide whether a given matrix element of CDE must be zero. This procedure shows that the symbol letters are deeply related to the poles of the d log integrands.

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