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Factorization of unbounded p-adic L-functions

Let F_α, F_β be two power series over a finite extension of the field of p-adic numbers $\mathbb{Q}_p$ satisfying certain interpolation formulae. Suppose further that the coefficients of the power series have unbounded denominators satisfying certain growth condition. In this talk, we will discuss the decomposition of F_α and F_β into linear combinations of two power series with integral coefficients. We use p-adic Hodge theory, in particular the theory of Wach modules and Perrin-Riou's p-adic regulator to construct a logarithmic matrix (in the spirit of Sprung and Lei-Loeffler-Zerbes) which is used in the factorization. This is an extension of a result of Büyükboduk-Lei and is a part of my ongoing project which deals with the factorization of two variable p-adic L-function attached to a small slope Bianchi modular form constructed by Williams.