

An Ax-Lindemann-Weierstrass property for gamma

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In this talk we describe a differential independence property of certain evaluations of Euler gamma function generalizing Hölder's 1887 theorem asserting that Γ and its derivatives are algebraically independent over $\mathbb{C}(s)$. The result we obtain is deduced from a criterion of differential functional dependence of Hardouin-Singer (2008). On the way, instances of a “difference class field theory” emerge, related in some way to Carlitz's module and inspired by Hayes' function field variant of Kronecker-Weber theorem.

This is joint work with Lucia Di Vizio (CNRS & Université de Versailles-St Quentin).