The Non-Abelian p-Curvature Conjecture

mercredi 24 avril 2024 11:00 (1 heure)

The classical Grothendieck-Katz p-curvature conjecture gives an arithmetic criterion for the solutions to an algebraic linear ODE to be algebraic functions. We formulate a version of the p-curvature conjecture for certain non-linear ODEs arising from algebraic geometry (for example, the Painlevé VI equation or the Schlesinger system), which implies the classical conjecture, and prove it for "Picard-Fuchs initial conditions." The proof is inspired in part by Katz's resolution of the classical p-curvature conjecture for Picard-Fuchs equations, and in part by Esnault-Groechenig's recent resolution of the classical conjecture for rigid $\mathbb{Z}$-local systems. This is joint work with Josh Lam.

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