

Galois theory of periods and André-Oort conjecture

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The idea of a Galois theory of periods comes from an insight of Grothendieck. I shall briefly outline this conjectural link between algebraic geometry and transcendental number theory, then sketch the path which led me from it to the André-Oort conjecture, as well as some paths backward and various links. Principally polarized abelian varieties of dimension g are parametrized by the algebraic variety \mathcal{A}_g , those with prescribed extra "symmetries" by special subvarieties of \mathcal{A}_g , and those with maximal symmetry by special points; the André-Oort conjecture characterizes special subvarieties of \mathcal{A}_g by the density of their special points. It has been proven last year, after two decades of collaborative efforts putting together many different areas, one decisive turn being the introduction of the Pila-Zannier method.