

Number Theory and Automorphic forms

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The celebrated Shimura-Taniyama conjecture says a one-dimensional abelian variety defined over \mathbb{Q} shares the L-function with an automorphic form of the algebraic group $\mathrm{GSp}(1)$ over \mathbb{Q} . The implications of the conjecture are deep (e.g., Fermat conjecture), and the generalization of the conjecture for various algebraic groups and varieties are tried.

I research new form theories for automorphic representations of various algebraic groups. The arithmetic subgroups that fix the new forms will give good prospect for the generalization.

Keywords : Automorphic forms and representations, Modular varieties, L-function, New Forms