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Title: Modularity, Rational Points and Diophantine Equations

Abstract:
Understanding solutions of Diophantine equations over rationals or more generally over any number field is one of the main problems of number theory. By the help of the modular techniques used in the proof of Fermat's Last Theorem and its generalizations, it is possible to solve other Diophantine equations too. Understanding rational points on the twists of the classical modular curve or quadratic points on it play a central role in this approach. In this talk, I will survey results in these directions including some recent results about quadratic points on the classical modular curve. This is joint work with Samir Siksek.