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Quadratic Points on Modular Curves and Fermat-type Equations

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 by Wiles and its generalizations, it is possible to solve other Diophantine equations too. Understanding quadratic points on the classical modular curve plays a central role in this approach. In this talk, I will mention some recent results about these notions.