

BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

9th November 12:15-13:00

Virtual seminar

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Modular method for solving Diophantine equations

ABSTRACT

In 1995 Andrew Wiles proved the famous Fermat's last theorem by proving that a certain important class of elliptic curves arise from modular forms. This was later generalized to all rational elliptic curves, and is known as the modularity theorem. Knowing this, one can look at Fermat's equation and similar problems and associate to them certain elliptic curves (Frey curves) and study their properties. In this talk I will explain how Frey curves and modular forms can be used to deduce information about solutions to Diophantine equations - using mainly Fermat's equation as an example.