

Online Number Theory Seminar

8 April 2022. – 17:00-17:50

Mike Bennett: Differences between perfect powers : The Lebesgue-Nagell equation

I discuss what is provable with current technology about the classical Diophantine equation $x^2 + D = y^n$, when the prime divisors of D are restricted to a fixed finite set S . This is joint work with Samir Siksek and, in part, with Philippe Michaud-Jacobs. Our results rely upon a combination of various results based upon the modularity of Galois representations, with bounds for linear forms in logarithms.