

Peter Koymans, June 18, 2020

Title: Integral points on quadratic equations

Abstract: Fix a prime number $l \equiv 3 \pmod{4}$. In this talk we study how often the equation $x^2 - dy^2 = l$ is soluble in integers x and y as we vary d over squarefree integers divisible by our fixed prime l . We will discuss how this question can be rephrased in terms of the 2-part of the narrow class group of $\mathbb{Q}(\sqrt{d})$. Then we sketch how one can use the recent ideas of Alexander Smith to obtain the distribution of these class groups. This is joint work with Carlo Pagano.

[Link to video of talk](#)