Boğaziçi
MATH COLLOQUIUM

Integers which are(n?t) the sum of two cubes

Levent Alpöge
Harvard University

Abstract:

Fermat identified the integers which are a sum of two squares, integral or rational: they are exactly those integers which have all primes congruent to 3 (mod 4) occurring to an even power in their prime factorization – a condition satisfied by 0% of integers!

What about the integers which are a sum of two cubes? 0% are a sum of two integral cubes, but...

Main Theorem:
1. A positive proportion of integers aren?t the sum of two rational cubes,
2. and also a positive proportion are!

(Joint work with Manjul Bhargava and Ari Shnidman.)

Date : Thursday, December 29, 2022
Time: 13:00
Place: TB 130, Boğaziçi University