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ON LANDAU'S PROBLEMS ON PRIMES

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Abstract

At the 1912 Cambridge International Congress Landau listed four basic problems about primes. These problems were characterised in his speech as "unattackable at the present state of science". The problems were the following:

- (1) The Goldbach conjecture, that every even number exceeding 2 can be written as the sum of two primes.
- (2) The twin prime conjecture, the existence of infinitely many twin primes.
- (3) Does there always exist at least one prime between neighbouring squares?
- (4) Are there infinitely many primes p such that $p - 1$ is a square?

All these problems are still open. In the lecture a survey will be given about partial results in Problems (1)-(3), with special emphasis on the recent results of D. A. Goldston, C. Y. Yıldırım and the speaker on small gaps between primes.

Date: Wednesday, October 11, 2006

Time: 13:30

Place: IMBM Seminar Room For newcomers we shall meet at BU Math Dept at 13:15.