

SCHOLAR
UNE CÉLÉBRATION SCIENTIFIQUE SOULIGNANT LES LIGNES OUVERTES DE LA RECHERCHE MATHÉMATIQUE EN
L'HONNEUR DE L'HÉRITAGE MATHÉMATIQUE DU P^R M. RAM MURTY À L'OCCASION DE SON 60^E ANNIVERSAIRE
15 AU 17 OCTOBRE 2013

SCHOLAR
A SCIENTIFIC CELEBRATION HIGHLIGHTING OPEN LINES OF ARITHMETIC RESEARCH IN
HONOUR OF PROFESSOR M. RAM MURTY'S MATHEMATICAL LEGACY ON HIS 60TH BIRTHDAY
OCTOBER 15–17, 2013

A new method applying to small gaps between primes

Yitang Zhang^{*}

yitangz@unh.edu

The proof of the existence of infinitely many pairs of primes whose gaps are bounded by a constant consists of two aspects: The GPY sieve is applied for the main term and a stronger version of the Bombieri—Vinogradov theorem is applied to bound the error term. In this talk, we investigate a new idea which is analogous to the circle method and may be used to improve the existing results.

We also discuss potential application of this method to other problems.

^{*}Department of Mathematics and Statistics, The University of New Hampshire, W383 Kingsbury Hall, 33 Academic Way, Durham, NH 03824, USA.