

Runbo Li

✉ runbo.li.carey@gmail.com
🌐 <https://runbolicarey.com>

Education

2023 – now **International Curriculum Center (ICC), The High School Affiliated to Renmin University of China, Beijing, China**
High School Student

Publications

- 3 **Runbo Li.** On Chen's theorem, Goldbach's conjecture and almost prime twins II. *Mathematical Reports.* (to appear).
- 2 **Runbo Li.** A remark on the distribution of \sqrt{p} modulo one involving primes of special type. *Hiroshima Mathematical Journal.* (to appear).
- 1 **Runbo Li.** A remark on the distribution of \sqrt{p} modulo one involving primes of special type II. *European Journal of Mathematics.* 11:85, 2025. <https://doi.org/10.1007/s40879-025-00877-y>.

Preprints

- 31 **Runbo Li.** Sums of two squares of primes in short intervals. *Cambridge Open Engage.* 10.33774/coe-2025-15m3h.
- 30 **Runbo Li.** Bombieri–Vinogradov Theorem in shorter intervals. *Preprints.* preprints202511.0089.v1.
- 29 **Runbo Li.** Primes in almost all short intervals II. *Cambridge Open Engage.* 10.33774/coe-2025-jrnjl.
- 28 **Runbo Li.** On Chen's theorem, Goldbach's conjecture and almost prime twins III. *Cambridge Open Engage.* 10.33774/coe-2025-5kl50.
- 27 **Runbo Li.** An average Brun–Titchmarsh theorem and shifted primes with a large prime factor. *arXiv.* arXiv:2508:18285v3.
- 26 **Runbo Li.** On the weighted AM-GM inequality and refined inequalities between arithmetic functions. *Preprints.* preprints202511.0246.v1.
- 25 **Runbo Li.** On the exceptional set in the abc conjecture. *arXiv.* arXiv:2507:02885v1.

- 24 **Runbo Li.** On the largest prime factor of integers in short intervals II. *Cambridge Open Engage.* [10.33774/coe-2025-xnbjq-v2](https://doi.org/10.33774/coe-2025-xnbjq-v2).
- 23 **Runbo Li.** On Chen's theorem, Goldbach's conjecture and almost prime twins II. *arXiv.* [arXiv:2405.05727v4](https://arxiv.org/abs/2405.05727v4).
- 22 **Runbo Li.** On the largest prime factor of quadratic polynomials. *arXiv.* [arXiv:2406.07575v2](https://arxiv.org/abs/2406.07575v2).
- 21 **Runbo Li.** A remark on the distribution of \sqrt{p} modulo one involving primes of special type II. *arXiv.* [arXiv:2401.01351v3](https://arxiv.org/abs/2401.01351v3).
- 20 **Runbo Li.** Largest square divisors of shifted primes. *arXiv.* [arXiv:2505.23779v2](https://arxiv.org/abs/2505.23779v2).
- 19 **Runbo Li.** On the generalized Dirichlet divisor problem. *Preprints.* [preprints202505.1432.v3](https://preprints.org/preprint/202505.1432.v3).
- 18 **Runbo Li.** On almost primes in Piatetski-Shapiro sequences. *arXiv.* [arXiv:2505.09634v1](https://arxiv.org/abs/2505.09634v1).
- 17 **Runbo Li.** Primes in arithmetic progressions to smooth moduli: A minorant version. *arXiv.* [arXiv:2505.09629v2](https://arxiv.org/abs/2505.09629v2).
- 16 **Runbo Li.** On prime-producing sieves and distribution of $\alpha p - \beta \bmod 1$. *arXiv.* [arXiv:2504.13195v3](https://arxiv.org/abs/2504.13195v3).
- 15 **Runbo Li.** A note on variants of Buchstab's identity. *arXiv.* [arXiv:2504.07974v1](https://arxiv.org/abs/2504.07974v1).
- 14 **Runbo Li.** The number of primes in short intervals and numerical calculations for Harman's sieve. *arXiv.* [arXiv:2308.04458v8](https://arxiv.org/abs/2308.04458v8).
- 13 **Runbo Li.** On the Piatetski-Shapiro prime number theorem II. *Preprints.* [preprints202504.1165.v2](https://preprints.org/preprint/202504.1165.v2).
- 12 **Runbo Li.** On the Piatetski-Shapiro prime number theorem. *Preprints.* [preprints202504.1190.v1](https://preprints.org/preprint/202504.1190.v1).
- 11 **Runbo Li.** On the largest prime factor of integers in short interval. *Preprints.* [preprints202504.1212.v2](https://preprints.org/preprint/202504.1212.v2).
- 10 **Runbo Li.** Primes in almost all short intervals. *arXiv.* [arXiv:2407.05651v6](https://arxiv.org/abs/2407.05651v6).
- 9 **Runbo Li.** On the primitive divisors of quadratic polynomials. *arXiv.* [arXiv:2406.07575v1](https://arxiv.org/abs/2406.07575v1).

- 8 **Runbo Li.** On Chen's theorem, Goldbach's conjecture and almost prime twins. arXiv. arXiv:2405.05727v3.
- 7 **Runbo Li.** On a conjecture involving twin practical numbers. Preprints. preprints202504.1211.v1.
- 6 **Runbo Li.** A remark on large even integer of the form $p + P_3$. arXiv. arXiv:2403.09691v1.
- 5 **Runbo Li.** Hybrid estimation of exponential sums, exceptional characters and primes in short intervals. arXiv. arXiv:2401.11139v3.
- 4 **Runbo Li.** Remarks on additive representations of natural numbers. arXiv. arXiv:2309.03218v7.
- 3 **Runbo Li.** A remark on the distribution of \sqrt{p} modulo one involving primes of special type. arXiv. arXiv:2401.01351v1.
- 2 **Runbo Li.** On the upper and lower bound orders of almost prime triples. arXiv. arXiv:2401.01348v1.
- 1 **Runbo Li.** On some problems of primes with the floor function. arXiv. arXiv:2308.16301v1.

Manuscripts

- 1 **Runbo Li.** Primes in almost all short intervals III. preprint.

Talks

- 5 Primes in short intervals. *Nankai University Additive Number Theory Seminar.* Online. 4 December 2025.
- 4 On Bertrand's Postulate. *Tianjin Nankai High School: Student Research Experience Sharing and Shiing-Shen Chern Class Research Group Launch Meeting.* Online. 21 November 2025.
- 3 Primes in short intervals. *Online Meeting Invited Speaker.* Online. 21 July 2025.
- 2 On the Goldbach's conjecture. *2025 'Haidian π Mathematics Festival' Closing Ceremony Research Presentation.* The High School Affiliated to Beijing Institute of Technology. 4 July 2025.

- 1 On Chen's theorem, Goldbach's conjecture and applications of sieve methods. *S.-T. Yau High School Science Award (Mathematics) Global Final Research Report*. Tsinghua University. 7 December 2024.