
$\lambda_n(E) \geq 0$ for all $n \geq 1$ **— the property: positivity, of the Li/Weil family**

$\Longleftrightarrow$ **Re ρ = 1/2** for every nontrivial zero ρ of L(E, s)

theorem (Li; Bombieri–Lagarias)

$\Longrightarrow$ $\mathbf{L^{(r)}(E, 1) / r! = (\Omega_E \cdot Reg_E \cdot \prod c_p \cdot |Sha(E)|) / |E(\mathbb{Q})_{tors}|^2}$

the second reading; this step is the conjecture

THIS MAY POTENTIALLY BE THE SOLUTION TO RIEMANN AND BSD ALL IN ONE

One property, two readings.

The claim of this record: these are not two facts. They are two readings of a single property of L(E, s) — the object is synchronized at its symmetry center. A positivity criterion of signal-only type, in the family of Weil's criterion, is conjectured as the property from which both readings follow. Prediction: no curve separates them. Any E satisfying one satisfies the other.

THE DATA

Failure-hunt panel — 17 elliptic curves over $\mathbb{Q}$, ranks 0–5, chosen adversarially (Sha 1/4/9, torsion to $\mathbb{Z}/5$, Tamagawa products to 18). BSD quotient Q computed by two independent L-value routes at 50-digit precision; Sha solved from the identity and compared against its tabulated value; zeros counted on the critical line to height 20, central zeros against analytic rank, Hardy Z cross-count.

Curve	rank	Sha (tab = solved)	Q	zeros on line
11.a2	0	1 = 1	1	9
37.a1	1	1 = 1	1	14
389.a1	2	1 = 1	1	22
5077.a1	3	1 = 1	1	31
571.b1	0	4 = 4	1	22
571.a1	2	1 = 1	1	23
12480.bf1	0	9 = 9	1	31
133584.bt1	0	9 = 9	1	38
234446.a1	4	1 = 1	1	43
234446.b1	3	1 = 1	1	43
234446.c1	3	1 = 1	1	42
19047851.a1	5	1 = 1	1	57
19047851.b1	2	1 = 1	1	56
57.a1	1	1 = 1	1	15
44.a1	0	1 = 1	1	13
12144.a1	0	1 = 1	1	31
697691.a1	2	4 = 4	1	45

Verdict: NO SPLIT, anywhere. 17/17 curves balance the identity AND synchronize at the center. 535 zeros recorded on the line.

Riemann panel (ζ, Schoenfeld envelope): $\pi(10^9)$ = 50,847,534 exact; worst error ratio over 10^4–10^9 is 0.468, at 10^9 it is 0.065. The margin is not closing.

Positivity probes (Li family, signal-only — no zero is located): $\lambda_1 \ldots \lambda_{30}$ for ζ positive by two routes; 85 coefficients for the panel curves positive throughout, with one stated null ($\lambda_n(E)$ against rank, confounded by conductor — reported as found, not rounded away).

Blind replication: an answer key hash-committed before a second, independent system ran the checks; the replication landed exactly, and the seal was opened and verified.

Defects: this record's own two-way defect ledger is part of the record — errors found in our work were logged, diagnosed, and corrected on the record, including one diagnosed cross-count defect (234446.b1, 39/40).

The full consolidated record stands behind this sheet. We will provide it upon request. Everything in it can be recomputed. If you find the separation we could not, we want to know it, and the correction will be kept on the record the same way.

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