

95. Corrections to *The Mean Square of Dirichlet L-Functions*

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The following errors were contained in [1].

(1) In the statement of Theorem 1, the term $4(2\pi/q^3)^{1/2} \left(\sum_{n=1}^{q-1} n \right) T^{1/2}$ should be omitted. Hence, the comment on this term in p. 444 has no meaning. (The Corollary is still valid as it is, but now, a better result was observed by Motohashi [2].)

(2) In §2, we quoted the Riemann-Siegel formula of Dirichlet L -functions with the error term $O(q^{-1/4}t^{-3/4})$. (By misprint the minus sign of the exponent of t was missing.) This error term should be read as $O(q^{5/4}t^{-3/4})$. Though the dependency with respect to q is implicit in [3], we obtain only a quite poor estimate of this error term with respect to q , if we follow Siegel's argument directly. By a residue calculus, however, we can improve the estimate to obtain $O(q^{5/4}t^{-3/4})$. This change of the error estimate has no influence on our final result.

References

- [1] Matsumoto, K.: The mean square of Dirichlet L -functions. Proc. Japan Acad., **58A**, 443–446 (1982).
- [2] Motohashi, Y.: A note on the mean value of the zeta and L -functions. II. *ibid.*, **61A**, 313–316 (1985).
- [3] Siegel, C. L.: Contribution to the theory of the Dirichlet L -series and the Epstein zeta-functions. Ann. of Math., **44**, 143–172 (1943).