

MathSciNet Matters

The “MathSciNet Matters” column appears in the *Notices* several times a year. It includes information on new features of MathSciNet and on the underlying Mathematical Reviews Database, together with tips on how to use MathSciNet to make the most of its richness of structure and content.

Calling All Postdocs. The reviewers for *Mathematical Reviews* perform an invaluable service to the mathematical community around the world. Although there are over 11,000 reviewers, that number has not grown as rapidly as the literature has grown in the last decade. Many more are needed. Younger mathematicians active in research are encouraged to become reviewers. The list of reviewers in Volume 1 of the print publication *Mathematical Reviews* is quite impressive, including such names as Norbert Wiener, John von Neumann, Olga Taussky-Todd, Richard Courant, and Marshall Stone. The list can be seen at <http://www.ams.org/publications/60ann/ReviewersVolume1.html>. Edward Titchmarsh’s review of a paper by Paul Turán (MR0000836 (1,135e)) appears in the illustration:

Turán, Paul. Über die Primzahlen der arithmetischen Progression. (II.) Acta Litt. Sci. Szeged 9, 187–192 (1939). [MF 610]

Let $P(k, l)$ denote the smallest prime of the form $kx+l$. It was proved by Chowla [J. Indian Math. Soc. (2) 1, 1–3 (1934)] that if no L -function vanishes for $\sigma > 1/2$, then $P(k, l) < c_1 \phi(k)^{2+\epsilon}$, where ϵ is arbitrarily small and $c_1 = c_1(\epsilon)$. The author now shows that a similar result follows from a weaker hypothesis. Suppose that there are constants δ , $0 < \delta \leq 1/2$, and α , such that no L -function vanishes for $1 - \delta < \sigma \leq 2$, $|t| \leq \alpha$. Then $P(k, l) < c_3 \phi(k)^{c_4}$, where c_3 is an absolute constant, and $c_4 = c_4(\alpha, \delta)$, $c_4 > 1/\delta$.

E. C. Titchmarsh (Oxford).

To join these notables, send email to mathrev@ams.org.

The Citation Database. As we mentioned in the April column, a new version of the MathSciNet interface is released each September. Here is a sneak preview of the expanded scope of the citation information that will be available in September 2005. For several years we have been reproducing the reference lists from the papers in selected journals, matching each item in each list, where possible, with items in the MR Database. As the collection of reference lists has become more substantial, this has provided a view of the development of mathematical ideas, forward and

backward over time. The forward view is provided by the Reference Citations link for each item, which links to all references to the given item found in reference lists in MathSciNet. The backward view is provided by following the links in a given reference list backward in time. The plan is to exploit the connectivity provided by this citation information, giving new information tied to authors and journals. By the time of the September release, we are hoping to have the reference lists for about two hundred journals back to 2000 (and for some journals back to 1997). The Citation Database in MathSciNet involves a significant effort on the part of the AMS. The matching of reference list entries to MathSciNet items uses a free AMS tool called MRef (<http://www.ams.org/mref>), which will be discussed in a future column.

Author Challenge. Who is XXX? The MR Author Database contains many interesting names, for example pseudonyms, one of which is Tom Odda. Another is XXX, the author of one paper in the database. (Look them up!) The database does not currently connect the name XXX to any other “real” author in the database. Do you have information about who XXX is? Send your documented answer to mrcontest@ams.org by September 1, 2005. Our author identification staff will assess the validity of the answers and choose a correct one—we don’t know the answer, or it would be in the database already. All correct answers will be entered into a drawing for a \$25 AMS gift certificate. XXX him/herself is an automatic winner.

Reviewers’ Corner. Links inside MathSciNet to other MathSciNet items are a powerful component of the electronic presentation of information in the Mathematical Reviews Database. Reviewers frequently ask about the right way to enter these links in the text of their reviews. All references in reviews are carefully checked for accuracy and then formatted according to MR style during the editing process. Reviewers should include as much bibliographic information as possible, including the MR number, if there is one, to facilitate the accuracy checking. In particular, while the MR number is sufficient in principle, it is best that the rest of the bibliographic information be present so that the correspondence can be verified. The style of reference found in the Clipboard is a very good one. Reviewers play an invaluable role in creating the rich internal connectivity of the MR Database.

—Norman Richert
Mathematical Reviews