specialize the analysis to finite dimensions, this way of presenting the material will undoubtedly incur some psychological difficulties for the less advanced student.

The two halves of the text could each be used for a one-semester course, and our feeling is that at least the second of these would be best suited to the beginning graduate level. The mathematically elegant exposition would also make the book ideal for the pure mathematician with an interest in applications.

The book is a valuable and welcome addition to the literature. It is written in French; it ought to be translated into English.

V. T.

6[10H05, 10-04, 65E05, 30-04].—J. VAN DE LUNE, H. J. J. TE RIELE & D. T. WINTER, *Rigorous High Speed Separation of Zeros of Riemann's Zeta Function*, Report NW 113/81, Mathematisch Centrum, Amsterdam, October 1981.

This report announces that the first 200,000,001 zeros of the Riemann zeta function $\zeta(s)$ in the critical strip are simple and lie on the line $R(s) = \frac{1}{2}$. Previously the best published result [1] was for the first 80,000,001 zeros, and an unpublished result by the reviewer extended this to the first 156,800,001 zeros.

The method used is essentially the same as that used by earlier authors, but some improvements in the search for "missing" zeros in Gram blocks has improved the efficiency of the method by about 20 percent.

The combined results of the reviewer and van de Lune, te Riele and Winter have appeared as [2], but the present report includes significantly more details of the error analysis and computer programs, so is essential for anyone trying to verify or extend the computational results.

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1. R. P. BRENT, "On the zeros of the Riemann zeta function in the critical strip," *Math. Comp.*, v. 33, 1979, pp. 1361–1372. MR **80g**: 10033.

2. R. P. BRENT, J.. VAN DE LUNE, H. J. J. TE RIELE & D. T. WINTER, "On the zeros of the Riemann zeta function in the critical strip. II," *Math. Comp.*, v. 39, 1982, pp. 681–688.