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   Nota di contenuto Front matter -- Contents -- Introduction -- Chapter 1. Trigonometric integrals -- Chapter 2. Rational trigonometric sums -- Chapter 3. Weyl sums -- Chapter 4. Mean value theorems for multiple trigonometric sums -- Chapter 5. Estimates for multiple trigonometric sums -- Chapter 6. Several applications -- Chapter 7. Special cases of the theory of multiple trigonometric sums -- Chapter 8. The Hilbert-Kamke problem and its generalizations -- Chapter 9. The padic method in three problems of number theory -- Chapter 10. Estimates of multiple trigonometric sums with prime numbers -- Chapter 11. Some applications of trigonometric sums and integrals -- Chapter 12. Short Kloosterman sums -- Backmatter

   Sommario/riassunto The book presents the theory of multiple trigonometric sums constructed by the authors. Following a unified approach, the authors obtain estimates for these sums similar to the classical I. M. Vinogradov s estimates and use them to solve several problems in analytic number theory. They investigate trigonometric integrals, which are often encountered in physics, mathematical statistics, and analysis, and in addition they present purely arithmetic results concerning the solvability of equations in integers.