

1. Record Nr.	UNISA996466541503316
Autore	Candelpergher Bernard
Titolo	Ramanujan Summation of Divergent Series [[electronic resource] /] / by Bernard Candelpergher
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-63630-8
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XXIII, 195 p. 7 illus.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2185
Disciplina	517.21
Soggetti	Sequences (Mathematics) Functions of complex variables Number theory Sequences, Series, Summability Functions of a Complex Variable Number Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction: The Summation of Series -- 1 Ramanujan Summation -- 3 Properties of the Ramanujan Summation -- 3 Dependence on a Parameter -- 4 Transformation Formulas -- 5 An Algebraic View on the Summation of Series -- 6 Appendix -- 7 Bibliography -- 8 Chapter VI of the Second Ramanujan's Notebook.
Sommario/riassunto	The aim of this monograph is to give a detailed exposition of the summation method that Ramanujan uses in Chapter VI of his second Notebook. This method, presented by Ramanujan as an application of the Euler-MacLaurin formula, is here extended using a difference equation in a space of analytic functions. This provides simple proofs of theorems on the summation of some divergent series. Several examples and applications are given. For numerical evaluation, a formula in terms of convergent series is provided by the use of Newton interpolation. The relation with other summation processes such as those of Borel and Euler is also studied. Finally, in the last chapter, a purely algebraic theory is developed that unifies all these summation processes. This monograph is aimed at graduate students and

researchers who have a basic knowledge of analytic function theory.
