1. Record Nr. UNINA9910154745503321 Autore Deligne Pierre Titolo Commensurabilities among Lattices in PU (1,n). (AM-132), Volume 132 // G. Daniel Mostow, Pierre Deligne Pubbl/distr/stampa Princeton, NJ:,: Princeton University Press,, [2016] ©1994 **ISBN** 1-4008-8251-6 Descrizione fisica 1 online resource (196 pages): illustrations Collana Annals of Mathematics Studies;; 313 Disciplina 515/.25 Soggetti Hypergeometric functions Monodromy groups Lattice theory Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references. Nota di contenuto Frontmatter -- CONTENTS -- ACKNOWLEDGMENTS -- §1. INTRODUCTION -- §2. PICARD GROUP AND COHOMOLOGY -- §3. COMPUTATIONS FOR Q AND Q+ -- §4. LAURICELLA'S HYPERGEOMETRIC FUNCTIONS -- §5. GELFAND'S DESCRIPTION OF HYPERGEOMETRIC FUNCTIONS -- §6. STRICT EXPONENTS -- §7. CHARACTERIZATION OF HYPERGEOMETRIC-LIKE LOCAL SYSTEMS -- §8. PRELIMINARIES ON MONODROMY GROUPS -- §9. BACKGROUND HEURISTICS -- §10. SOME COMMENSURABILITY THEOREMS -- §11. ANOTHER ISOGENY -- §12. COMMENSURABILITY AND DISCRETENESS -- §13. AN EXAMPLE -- §14. ORBIFOLD -- §15. ELLIPTIC AND EUCLIDEAN 'S, REVISITED -- §16. LIVNE'S CONSTRUCTION OF LATTICES IN PU(1,2) -- §17. LIN E ARRANGEMENTS: QUESTIONS -- Bibliography Sommario/riassunto The first part of this monograph is devoted to a characterization of hypergeometric-like functions, that is, twists of hypergeometric functions in n-variables. These are treated as an (n+1) dimensional vector space of multivalued locally holomorphic functions defined on the space of n+3 tuples of distinct points on the projective line P modulo, the diagonal section of Auto P=m. For n=1, the characterization may be regarded as a generalization of Riemann's

classical theorem characterizing hypergeometric functions by their

exponents at three singular points. This characterization permits the authors to compare monodromy groups corresponding to different parameters and to prove commensurability modulo inner automorphisms of PU(1,n). The book includes an investigation of elliptic and parabolic monodromy groups, as well as hyperbolic monodromy groups. The former play a role in the proof that a surprising number of lattices in PU(1,2) constructed as the fundamental groups of compact complex surfaces with constant holomorphic curvature are in fact conjugate to projective monodromy groups of hypergeometric functions. The characterization of hypergeometric-like functions by their exponents at the divisors "at infinity" permits one to prove generalizations in n-variables of the Kummer identities for n-1 involving quadratic and cubic changes of the variable.