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Soggetti	Automorphic forms Transfer operators Hecke algebras Number theory -- Discontinuous groups and automorphic forms -- Automorphic forms, one variable Number theory -- Discontinuous groups and automorphic forms -- Special values of automorphic L-series, periods of modular forms, cohomology, modular symbols Dynamical systems and ergodic theory -- Smooth dynamical systems: general theory -- Zeta functions, (Ruelle-Frobenius) transfer operators, and other functional analytic techniques in dynamical systems Number theory -- Discontinuous groups and automorphic forms -- Spectral theory; Selberg trace formula Functions of a complex variable -- Riemann surfaces -- Fuchsian groups and automorphic functions Dynamical systems and ergodic theory -- Dynamical systems with hyperbolic behavior -- Dynamical systems of geometric origin and hyperbolicity (geodesic and horocycle flows, etc.)
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Nota di contenuto	Cover -- Title page -- Chapter 1. Introduction -- Motivational background -- Aim of this monograph -- Acknowledgement -- Part 1. Preliminaries, properties of period functions, and some insights -- Chapter 2. Notations -- Chapter 3. Elements from hyperbolic geometry -- 3.1. Models and isometries -- 3.2. Classification of isometries -- 3.3. Cusps, funnels, limit set, and ordinary points -- 3.4. Geodesics,

resonances, and the Selberg zeta function -- 3.5. Intervals and rounded neighborhoods -- Chapter 4. Hecke triangle groups with infinite covolume -- Chapter 5. Automorphic forms -- 5.1. Funnel forms of different types -- 5.2. Fourier expansion -- Chapter 6. Principal series -- 6.1. Regularity at infinity -- 6.2. Presheaves and sheaves -- 6.3. Holomorphic extensions -- Chapter 7. Transfer operators and period functions -- 7.1. Discretizations and transfer operators -- 7.2. Slow transfer operators -- 7.3. Period functions -- 7.4. Real and complex period functions -- 7.5. Fast transfer operators -- 7.6. One-sided averages -- 7.7. Convergence and meromorphic extension of fast transfer operators -- 7.8. Spaces of complex period functions -- Chapter 8. An intuition and some insights -- Part 2. Semi-analytic cohomology -- Chapter 9. Abstract cohomology spaces -- 9.1. Standard group cohomology -- 9.2. Cohomology on an invariant set -- 9.3. Relation to parabolic cohomology spaces -- Chapter 10. Modules -- 10.1. Modules of semi-analytic functions -- 10.2. Submodules of semi-analytic vectors -- 10.3. Conditions on cocycles -- 10.4. Cohomological interpretation of the singularity condition -- Part 3. Automorphic forms and cohomology -- Chapter 11. Invariant eigenfunctions via a group cohomology -- Chapter 12. Tesselation cohomology -- 12.1. Choice of a tesselation, and cohomology -- 12.2. Relation to group cohomology -- 12.3. Mixed cohomology spaces. Chapter 13. Extension of cocycles -- Chapter 14. Surjectivity I: Boundary germs -- 14.1. Analytic boundary germs and semi-analytic modules -- 14.2. Cohomology classes attached to funnel forms -- 14.3. Representatives of boundary germs -- Chapter 15. Surjectivity II: From cocycles to funnel forms -- 15.1. From a cocycle to an invariant eigenfunction -- 15.2. A cocycle on an orbit of ordinary points -- 15.3. Isomorphisms -- Chapter 16. Relation between cohomology spaces -- Chapter 17. Proof of Theorem D -- From funnel forms to cocycle classes on the invariant set -- From cocycle classes on to funnel forms -- Proof of Theorem D -- Part 4. Transfer operators and cohomology -- Chapter 18. The map from functions to cocycles -- Chapter 19. Real period functions and semi-analytic cocycles -- Chapter 20. Complex period functions and semi-analytic cohomology -- Chapter 21. Proof of Theorem E -- Part 5. Proofs of Theorems A and B, and a recapitulation -- Part 6. Parity -- Chapter 22. The triangle group in the projective general linear group -- 22.1. Two actions of the projective general linear group -- 22.2. The triangle group -- Chapter 23. Odd and even funnel forms, cocycles, and period functions -- 23.1. Odd and even funnel forms -- 23.2. Odd and even cocycles -- 23.3. Odd and even period functions -- Chapter 24. Isomorphisms with parity -- Part 7. Complements and outlook -- Chapter 25. Fredholm determinant of the fast transfer operator -- Chapter 26. Outlook -- Bibliography -- Index of terminology -- List of notations -- Back Cover.

Sommario/riassunto

"We develop cohomological interpretations for several types of automorphic forms for Hecke triangle groups of infinite covolume. We then use these interpretations to establish explicit isomorphisms between spaces of automorphic forms, cohomology spaces and spaces of eigenfunctions of transfer operators. These results show a deep relation between spectral entities of Hecke surfaces of infinite volume and the dynamics of their geodesic flows"--