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Nota di contenuto	Introduction to Teichmuller theory, old and new, VI / Athanase Papadopoulos -- Alexander Grothendieck / Valentin Poenaru -- On Grothendieck's construction of Teichmuller space / Norbert A'Campo, Lizhen Ji, Athanase Papadopoulos -- Null-set compactifications of Teichmuller spaces / Vincent Alberge, Hideki Miyachi, Ken'ichi Ohshika -- Mirzakhani's recursion formula on Weil-Petersson volume and applications / Yi Huang -- Rigidity phenomena in the mapping class group / Javier Aramayona, Juan Souto -- Harmonic volume and its applications / Yuuki Tadokoro -- Torus bundles and 2-forms on the universal family of Riemann surfaces / Robin de Jong -- Cubic Differentials in the Differential Geometry of Surfaces / John Loftin, Ian McIntosh -- Two-generator groups acting on the complex hyperbolic plane / Pierre Will -- Configuration spaces of planar linkages / Alexey Sossinsky -- Quasiconformal mappings on the Heisenberg group: An overview / Ioannis D. Platis -- Actions of the absolute Galois group / Norbert A'Campo, Lizhen Ji, Athanase Papadopoulos -- A primer on dessins / Pierre Guillot -- Hypergeometric Galois Actions / A. Muhammed Uludag, Ismail Saglam -- A panorama of the fundamental group of the modular orbifold / A. Muhammed Uludag, Ayberk Zeytin -- On Grothendieck's tame topology / Norbert A'Campo, Lizhen Ji, Athanase Papadopoulos -- Some historical commentaries on

Teichmuller's paper Extremale quasikonforme Abbildungen und quadratische Differentiale / Reiner Kuhnau -- Complete solution of an extremal problem of the quasiconformal mapping / Oswald Teichmuller -- A Commentary on Teichmuller's paper Vollständige Lösung einer Extremalaufgabe der quasikonformen Abbildung / Vincent Alberge, Athanase Papadopoulos -- On extremal problems of conformal geometry / Oswald Teichmuller -- A Commentary on Teichmuller's paper Über Extremalprobleme der konformen Geometrie / Norbert A'Campo, Athanase Papadopoulos -- A displacement theorem of quasiconformal mapping / Oswald Teichmuller -- A Commentary on Teichmuller's paper Ein Verschiebungssatz der quasikonformen Abbildung / Vincent Alberge.

Sommario/riassunto

This volume is the sixth in a series dedicated to Teichmuller theory in a broad sense, including various moduli and deformation spaces, and the study of mapping class groups. It is divided into five parts: Part A: The metric and the analytic theory. Part B: The group theory. Part C: Representation theory and generalized structures. Part D: The Grothendieck-Teichmuller theory. Part E: Sources. The topics surveyed include Grothendieck's construction of the analytic structure of Teichmuller space, identities on the geodesic length spectrum of hyperbolic surfaces (including Mirzakhani's application to the computation of Weil-Petersson volumes), moduli spaces of configurations spaces, the Teichmuller tower with the action of the Galois group on dessins d'enfants, and several other actions related to surfaces. The last part contains three papers by Teichmuller, translated into English with mathematical commentaries, and a document that contains H. Grotzsch's comments on Teichmuller's famous paper Extremale quasikonforme Abbildungen und quadratische Differentiale. The handbook is addressed to researchers and to graduate students.
