

1. Record Nr.	UNINA9910254298503321
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Titolo	Algorithmic and Geometric Topics Around Free Groups and Automorphisms / / by Javier Aramayona, Volker Diekert, Christopher J. Leininger, Pedro V. Silva, Armin Weiß ; edited by Juan González-Meneses, Martin Lustig, Enric Ventura
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2017
ISBN	3-319-60940-8
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (IX, 151 p. 27 illus.)
Collana	Advanced Courses in Mathematics - CRM Barcelona, , 2297-0312
Disciplina	512.2
Soggetti	Group theory Computer science - Mathematics Group Theory and Generalizations Mathematical Applications in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	This volume presents the lecture notes from the authors' three summer courses offered during the program "Automorphisms of Free Groups: Geometry, Topology, and Dynamics" held at the Centre de Recerca Matemàtica (CRM) in Bellaterra, Spain. The first two chapters present the basic tools needed, from formal language theory (regular and context-free languages, automata, rewriting systems, transducers, etc) and emphasize their connections to group theory, mostly relating to free and virtually-free groups. The material covered is sufficient to present full proofs of many of the existing interesting characterizations of virtually-free groups. In turn, the last chapter comprehensively describes Bonahon's construction of Thurston's compactification of Teichmüller space in terms of geodesic currents on surfaces. It also includes several intriguing extensions of the notion of geodesic current to various other, more general settings.