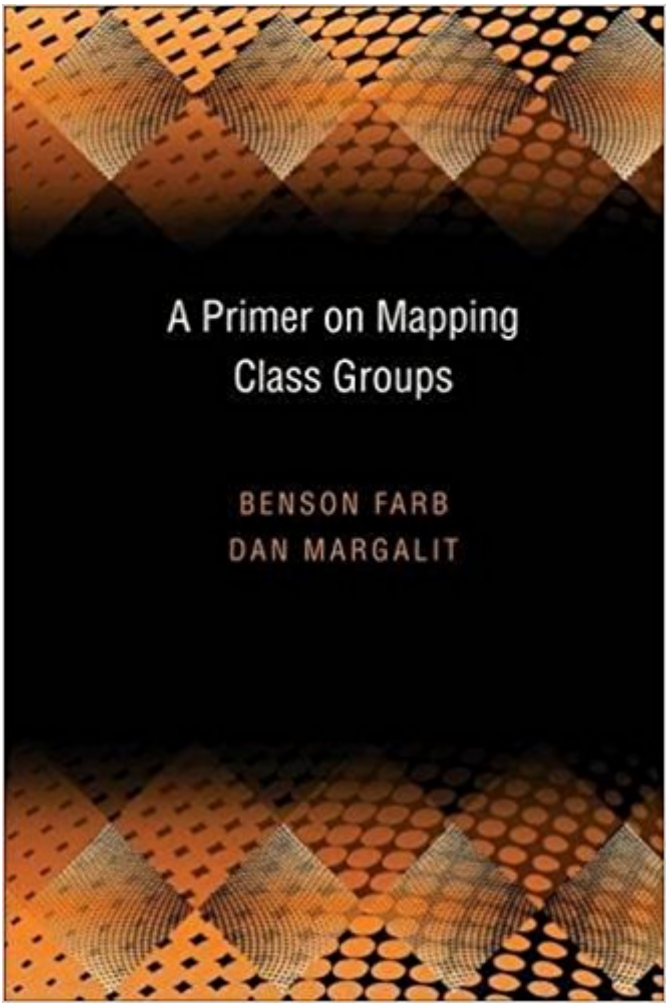
A Primer On Mapping Class Groups (PMS-49) (Princeton Mathematical Series)



Synopsis

The study of the mapping class group Mod(S) is a classical topic that is experiencing a renaissance. It lies at the juncture of geometry, topology, and group theory. This book explains as many important theorems, examples, and techniques as possible, quickly and directly, while at the same time giving full details and keeping the text nearly self-contained. The book is suitable for graduate students. A Primer on Mapping Class Groups begins by explaining the main group-theoretical properties of Mod(S), from finite generation by Dehn twists and low-dimensional homology to the Dehn-Nielsen-Baer theorem. Along the way, central objects and tools are introduced, such as the Birman exact sequence, the complex of curves, the braid group, the symplectic representation, and the Torelli group. The book then introduces TeichmÃƒÂ ller space and its geometry, and uses the action of Mod(S) on it to prove the Nielsen-Thurston classification of surface homeomorphisms. Topics include the topology of the moduli space of Riemann surfaces, the connection with surface bundles, pseudo-Anosov theory, and Thurston's approach to the classification.

Book Information

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Customer Reviews

"It is clear that a lot of care has been taken in the production of this book, something that indicates the authors' love for the subject. This book should now become the standard text for the subject."--Stephen P Humphries, Mathematical Reviews"[T]his is a very pleasant and appealing book and it is an excellent reference for any reader willing to learn about this fascinating part of

mathematics."--Raquel DÃƒÂ- az, ÃƒÂ•lvaro MartÃƒÂ- nez, European Mathematical Society

Benson Farb is professor of mathematics at the University of Chicago. He is the editor of Problems on Mapping Class Groups and Related Topics and the coauthor of Noncommutative Algebra. Dan Margalit is assistant professor of mathematics at Georgia Institute of Technology.

This is an excllent book for mapping class goup, and some teichmuller geometry.

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