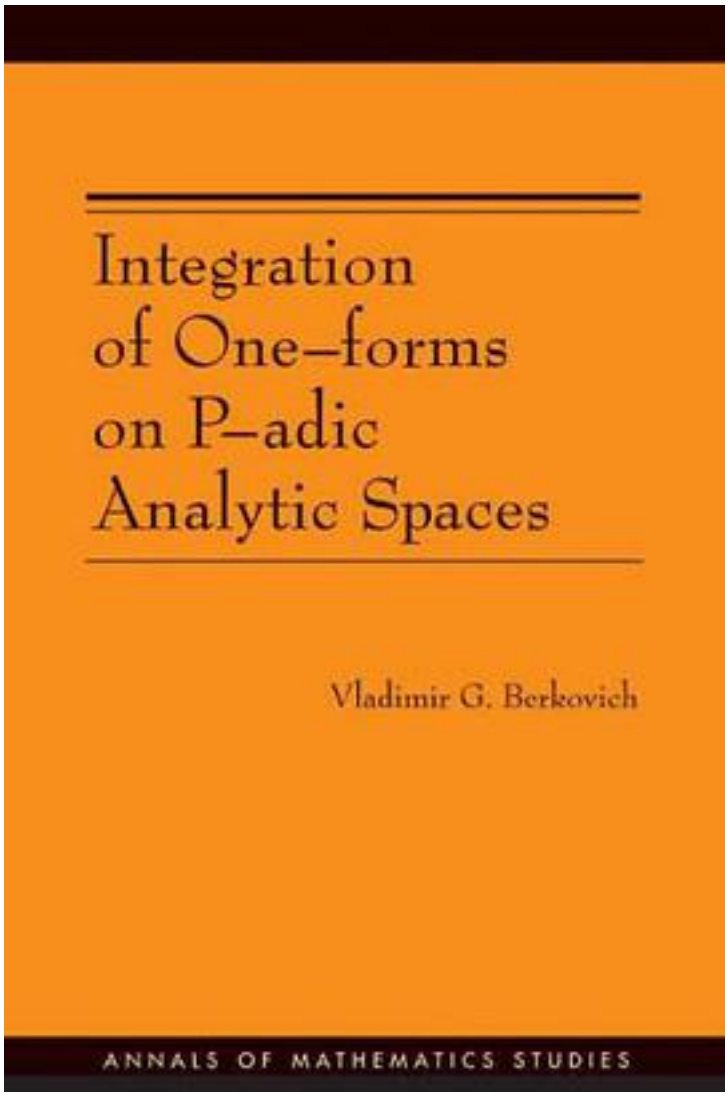
Integration of One-Forms on P-adic Analytic Spaces



Integration of One-Forms on P-adic Analytic Spaces_下载链接1_

著者:Berkovich, Vladimir G.

出版者:Princeton Univ Pr

出版时间:2007-2

装帧:HRD

isbn:9780691127415

Among the many differences between classical and p-adic objects, those related to differential equations occupy a special place. For example, a closed p-adic analytic one-form defined on a simply-connected domain does not necessarily have a primitive in the class of analytic functions. In the early 1980s, Robert Coleman discovered a way to construct primitives of analytic one-forms on certain smooth p-adic analytic curves in a bigger class of functions. Since then, there have been several attempts to generalize his ideas to smooth p-adic analytic spaces of higher dimension, but the spaces considered were invariably associated with algebraic varieties. This book aims to show that every smooth p-adic analytic space is provided with a sheaf of functions that includes all analytic ones and satisfies a uniqueness property. It also contains local primitives of all closed one-forms with coefficients in the sheaf that, in the case considered by Coleman, coincide with those he constructed. In consequence, one constructs a parallel transport of local solutions of a unipotent differential equation and an integral of a closed one-form along a path so that both depend nontrivially on the homotopy class of the path. Both the author's previous results on geometric properties of smooth p-adic analytic spaces and the theory of isocrystals are further developed in this book, which is aimed at graduate students and mathematicians working in the areas of non-Archimedean analytic geometry, number theory, and algebraic geometry.

作者介绍:

目录:

标签

评论

Integration of One-Forms on P-adic Analytic Spaces_下载链接1_

书评

Integration of One-Forms on P-adic Analytic Spaces_下载链接1_