

1. Record Nr.	UNINA9910822032303321
Autore	Hrushovski Ehud
Titolo	Non-archimedean tame topology and stably dominated types // Ehud Hrushovski, Francois Loeser
Pubbl/distr/stampa	Princeton, New Jersey ; ; Oxford, [England] : , : Princeton University Press, , 2016 ©2016
ISBN	1-4008-8122-6
Descrizione fisica	1 online resource (227 p.)
Collana	Annals of Mathematics Studies ; ; Number 192
Classificazione	SI 830
Disciplina	512.4
Soggetti	Tame algebras
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front matter -- Contents -- 1. Introduction -- 2. Preliminaries -- 3. The space $v$ of stably dominated types -- 4. Definable compactness -- 5. A closer look at the stable completion -- 6. -internal spaces -- 7. Curves -- 8. Strongly stably dominated points -- 9. Specializations and ACV2F -- 10. Continuity of homotopies -- 11. The main theorem -- 12. The smooth case -- 13. An equivalence of categories -- 14. Applications to the topology of Berkovich spaces -- Bibliography -- Index -- List of notations
Sommario/riassunto	Over the field of real numbers, analytic geometry has long been in deep interaction with algebraic geometry, bringing the latter subject many of its topological insights. In recent decades, model theory has joined this work through the theory of o-minimality, providing finiteness and uniformity statements and new structural tools. For non-archimedean fields, such as the p-adics, the Berkovich analytification provides a connected topology with many thoroughgoing analogies to the real topology on the set of complex points, and it has become an important tool in algebraic dynamics and many other areas of geometry. This book lays down model-theoretic foundations for non-archimedean geometry. The methods combine o-minimality and stability theory. Definable types play a central role, serving first to define the notion of a point and then properties such as definable compactness. Beyond the foundations, the main theorem constructs a deformation retraction

from the full non-archimedean space of an algebraic variety to a rational polytope. This generalizes previous results of V. Berkovich, who used resolution of singularities methods. No previous knowledge of non-archimedean geometry is assumed. Model-theoretic prerequisites are reviewed in the first sections.

---