

1. Record Nr.	UNINA9910797970703321
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Titolo	The p-adic Simpson correspondence // Ahmed Abbes, Michel Gros, Takeshi Tsuji
Pubbl/distr/stampa	Princeton, New Jersey : , : Princeton University Press, , 2016
ISBN	1-4008-8123-4
Descrizione fisica	1 online resource (618 p.)
Collana	Annals of mathematics studies ; ; number 193
Classificazione	SI 830
Disciplina	512/.2
Soggetti	Group theory p-adic groups Geometry, Algebraic
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 -- Foreword -- Chapter I. Representations of the fundamental group and the torsor of deformations. An overview / Abbes, Ahmed / Gros, Michel -- Chapter II. Representations of the fundamental group and the torsor of deformations. Local study / Abbes, Ahmed / Gros, Michel -- Chapter III. Representations of the fundamental group and the torsor of deformations. Global aspects / Abbes, Ahmed / Gros, Michel -- Chapter IV. Cohomology of Higgs isocrystals / Tsuji, Takeshi -- Chapter V. Almost étale coverings / Tsuji, Takeshi -- Chapter VI. Covanishing topos and generalizations / Abbes, Ahmed / Gros, Michel -- Facsimile : A p-adic Simpson correspondence / Faltings, Gerd -- Bibliography -- Indexes
Sommario/riassunto	The p-adic Simpson correspondence, recently initiated by Gerd Faltings, aims at describing all p-adic representations of the fundamental group of a proper smooth variety over a p-adic field in terms of linear algebra-namely Higgs bundles. This book undertakes a systematic development of the theory following two new approaches, one by Ahmed Abbes and Michel Gros, the other by Takeshi Tsuji. The authors mainly focus on generalized representations of the fundamental group that are p-adically close to the trivial representation. The first approach relies on a new family of period rings built from the torsor of deformations of the variety over a universal p-adic thickening defined by J. M. Fontaine. The second approach

introduces a crystalline-type topos and replaces the notion of Higgs bundles with that of Higgs isocrystals. The authors show the compatibility of the two constructions and the compatibility of the correspondence with the natural cohomologies. The last part of the volume contains results of wider interest in p-adic Hodge theory. The reader will find a concise introduction to Faltings' theory of almost étale extensions and a chapter devoted to the Faltings topos. Though this topos is the general framework for Faltings' approach in p-adic Hodge theory, it remains relatively unexplored. The authors present a new approach based on a generalization of P. Deligne's covanishing topos.

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