

**Colmez, Pierre**

**$p$ -adic monodromy conjecture. (Les conjectures de monodromie  $p$ -adiques.)** (French)

[Zbl 1127.12301](#)

Séminaire Bourbaki. Volume 2001/2002. Exposés 894–908. Paris: Société Mathématique de France (ISBN 2-85629-149-X/pbk). Astérisque 290, 53-101, Exp. No. 897 (2003).

The paper is a survey of a variety of subjects related to the conjecture about the quasi-unipotence of differential modules over the Robba ring possessing the Frobenius structure. The conjecture was proved by different methods by *Y. André* [Invent. Math. 148, No. 2, 285–317 (2002; [Zbl 1081.12003](#))], *Z. Mebkhout* [Invent. Math. 148, No. 2, 319–351 (2002; [Zbl 1071.12004](#))], and *K. Kedlaya* [Ann. Math. (2) 160, No. 1, 93–184 (2004; [Zbl 1088.14005](#))].

The author discusses  $p$ -adic differential equations,  $\varphi$ -modules,  $p$ -adic Galois representations including the hierarchy of representations introduced by [*J.-M. Fontaine* [Périodes  $p$ -adiques. Séminaire de Bures-sur-Yvette, France, 1988, Astérisque 223, 113–184 (1994; [Zbl 0865.14009](#))].

For the entire collection see [[Zbl 1050.00006](#)].

Reviewer: [Anatoly N. Kochubei \(Kyïv\)](#)

**MSC:**

[12H25](#)  $p$ -adic differential equations  
[11S20](#) Galois theory  
[11S25](#) Galois cohomology  
[11F80](#) Galois representations  
[14F30](#)  $p$ -adic cohomology, crystalline cohomology

Cited in 4 Documents

**Keywords:**

differential module; Robba ring; Frobenius structure;  $\varphi$ -module; Galois representation

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