

**Tsuzuki, Nobuo**

**On base change theorem and coherence in rigid cohomology.** (English) Zbl 1093.14503  
Doc. Math. Extra Vol., Kazuya Kato's Fiftieth Birthday, 891-918 (2003).

Summary: We prove that the base change theorem in rigid cohomology holds when the rigid cohomology sheaves both for the given morphism and for its base extension morphism are coherent. Applying this result, we give a condition under which the rigid cohomology of families becomes an overconvergent isocrystal. Finally, we establish generic coherence of rigid cohomology of proper smooth families under the assumption of existence of a smooth lift of the generic fiber. Then the rigid cohomology becomes an overconvergent isocrystal generically. The assumption is satisfied in the case of families of curves. This example relates to P. Berthelot's conjecture of the overconvergence of rigid cohomology for proper smooth families.

**MSC:**

- 14F30**  $p$ -adic cohomology, crystalline cohomology
- 14F20** Étale and other Grothendieck topologies and (co)homologies
- 14D15** Formal methods and deformations in algebraic geometry

Cited in **9** Documents

**Full Text:** [EuDML](#) [EMIS](#)