1017-11-137 **Frauke M. Bleher*** (`fbleher@math.uiowa.edu`), Department of Mathematics, University of Iowa, Iowa City, IA 52242, **Ted Chinburg** (`ted@math.upenn.edu`), Department of Mathematics, University of Pennsylvania, Philadelphia, PA 19104, and **Luc Illusie** (`Luc.Illusie@math.u-psud.fr`), Mathématique, Bât. 425, Université Paris-Sud, 91405 Orsay Cedex, France. *Obstructions to deformations of complexes.*

Let k be a perfect field of positive characteristic $p > 0$, and let Γ be a profinite group satisfying a certain finiteness condition due to B. Mazur. Let $V^\bullet$ be a bounded above complex of $k[[\Gamma]]$-modules with only finitely many non-zero cohomology groups. The first two authors introduced a deformation theory of such a $V^\bullet$ over complete local Noetherian rings R with residue field k. In the present paper, we study obstructions of lifting $V^\bullet$ over small extensions. We show that these obstructions lie in a certain Ext^2-group using an argument due to O. Gabber. (Received February 18, 2006)