1017-11-100 **Kiran S. Kedlaya*** (kedlaya@mit.edu), Department of Mathematics, Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, MA 02139. *Slope filtrations for relative Frobenius.* Preliminary report.

The theory of slope filtrations for Frobenius modules over the Robba ring (a certain ring of power series over a p-adic field), which we originally considered in order to prove finiteness theorems in p-adic cohomology, has turned out to be unexpectedly useful in the classification of p-adic Galois representations (p-adic Hodge theory) via the work of Berger, Cherbonnier, and Colmez. However, in the original slope filtration theorem, the Frobenius had to act both on the series variable and on the coefficients. Following a request from Berger and Colmez, we show that these actions can be decoupled: the theorem still works as long as the Frobenius acts properly on the series variable, no matter how it acts on coefficients. We will explain what all this is saying, and maybe say a few words about how the proof is not quite a direct generalization due to the difficulty of performing descent in difference Galois theory. (Received February 15, 2006)