

1089-13-123

Greg Muller* (gmuller@lsu.edu), Mathematics Department, LSU, Baton Rouge, LA 70803, and
Jenna Rajchgot (jenna.rajchgot@gmail.com) and **Karen E Smith** (kesmith@umich.edu).

F-regularity and cluster algebras. Preliminary report.

This talk will consider reductions of cluster algebras to fields of odd characteristic. Algebras in positive characteristic have a Frobenius endomorphism, which sends every element to its p -th power. We show that the Frobenius map on an upper cluster algebra admits a standard splitting; that is, a left inverse. When the cluster algebra is locally acyclic, this Frobenius splitting is regular; that is, it does not fix any non-trivial ideals. This has geometric consequences for locally acyclic cluster algebras over \mathbb{Z} ; in particular, they have at worst rational singularities. (Received February 08, 2013)