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**Daniel Erman\*** ([erman@umich.edu](mailto:erman@umich.edu)), University of Michigan, Department of Mathematics, Ann Arbor, MI 48104, and **Melanie Matchett Wood**. *The probability that a curve over a finite field is smooth*. Preliminary report.

Given a surface over a finite field, we ask what proportion of curves in that surface are smooth. Poonen's work on Bertini theorems over finite fields answers this question for families of curves derived from a very ample divisor and its powers. In this ample case, the probability of smoothness is predicted by a simple heuristic assuming that smoothness is independent at different points in the surface. We consider this question for more general families of curves. Although the simple heuristic of independence fails, the answer can still be determined and follows from a richer heuristic that predicts at which points smoothness is independent and at which points it is dependent. This is joint work with Melanie Matchett Wood. (Received December 14, 2011)