1125-11-965

**Ted Chinburg*** (ted@math.upenn.edu), Dept. of Math, U. Penn., 209 S. 33rd Street, Philadelphia, PA 19104, **Brett Hemenway**, Dept. of Computer Science, 3330 Walnut St., University of Pennsylvania, Philadelphia, PA 19104, **Nadia Heninger**, Department of Computer Science, 3330 Walnut St., University of Pennsylvania, Philadelphia, PA 19104, and **Zachary Scherr**, Buckrnell University, Department of Mathematics, 380 Olin Science Building, Lewisburg, PA 17837. *Capacity theory and Coppersmith's algorithm for integral points.* Preliminary report.

In 1996, Coppersmith described polynomial time algorithms for finding (i) small solutions to one variable polynomial congruences, and (ii) small integral solutions to polynomial equations in two variables. I will describe how capacity theory can be used to quantify how far one can extend Coppermith's method of treating problem (ii). This has applications to finding an unknown divisor d of a given large integer N given a sufficiently close approximation to d. (Received September 13, 2016)