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**Aaron Levin\*** (adlevin@math.msu.edu). *Greatest common divisors in Diophantine approximation.*

In 2003, Bugeaud, Corvaja, and Zannier gave an (essentially sharp) upper bound for the greatest common divisor  $\gcd(a^n - 1, b^n - 1)$ , where  $a$  and  $b$  are fixed integers and  $n$  varies over the positive integers. In contrast to the elementary statement of their result, the proof required deep results from Diophantine approximation. I will discuss a higher-dimensional generalization of their result and current work on related results and problems. (Received January 29, 2019)