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Greatest common divisors in Diophantine approximation and Nevanlinna theory

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 some related results and problems.