On Uniform Boundedness of $x^d + c$

Preliminary report.

The finiteness of torsion points of rational elliptic curves can be viewed as the uniform boundedness of rational periodic points of their associated Lattè’s maps. For a polynomial in the form

$$f(x) = x^d + c$$

it is still unsolved for the existence of an upper bound of its rational periodic points. This is a special case of Morton and Silverman’s uniform boundedness conjecture. Under the assumption of the abc-conjecture, we prove the uniform boundedness for

$$x^d + c$$

(Received September 17, 2019)