Good reduction and computational applications
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The general idea of good reduction is that the local dynamics (modulo a prime) should reflect the global dynamics. In particular, the function and the reduction map commute at a prime of good reduction. We will give a precise definition of good reduction for morphisms of projective varieties over number fields. The main theorem is a precise relation between the global period of a periodic point and the local period at a prime of good reduction. We will then discuss several applications:

1. Bounding the number of periodic points in terms of the number of primes of good reduction.
2. Determination of a finite list of possible periods for a rational point.
3. Determination of all periodic and preperiodic points for a given $f : \mathbb{P}^1 \to \mathbb{P}^1$. 