

1035-11-1479      **Vijay Sookdeo\*** ([vijay@math.rochester.edu](mailto:vijay@math.rochester.edu)), 43 Westview Terrace, Rochester, NY 14620.  
*Integer Points in Backwards Orbits.*

In this talk, we show that at most finitely many roots of any algebraic number are S-integral with respect to a non-root of unity. This result, which can be reinterpreted as a finiteness condition on inverse images of certain polynomial maps, is analogous to a recent theorem of Baker, Ih and Rumley which shows that only finitely many roots of unity are S-integral with respect to a non-root of unity. Our new theorem naturally leads to general conjecture on the dynamical system of backward orbits of rational maps. (Received September 19, 2007)