

1014-13-1123      **Harm Derksen\*** ([hderksen@umich.edu](mailto:hderksen@umich.edu)), University of Michigan, Department of Math., 530 Church Street, East hall, Ann Arbor, MI 48109-1043. *rational invariants for dynamical systems*. Preliminary report.

I will discuss algorithms for finding generators of the field of rational invariants for algebraic group actions and actions by non-algebraic groups (such as the integers). For algebraic group actions we know that rational invariants separate the orbits generically. I will describe similar results for discrete dynamical systems (actions of  $\mathbb{Z}$  for example) and continuous dynamical systems (polynomial systems of differential equations). (Received September 27, 2005)