

1075-70-174

Lennard F Bakker* (bakker@math.byu.edu), Department of Mathematics, Brigham Young University, Provo, UT 84602. *Reinterpretation of Regularization of Collisions through Real Algebraic Geometry*. Preliminary report.

Regularization of binary and/or simultaneous binary collisions in the collinear N-body problem is a common tool used to analyze the geometry of orbits near these kinds of singularities. The Levi-Civita type coordinate and time transformations typically used in regularization are reinterpreted in terms of real algebraic geometry. This reinterpretation applies to Hamiltonians whose potential part is a finite sum of reciprocals of homogeneous polynomials in the position coordinates. (Received August 29, 2011)