1086-70-709 **Richard Moeckel*** (rick@math.umn.edu). *Complex Blow-up of Triple Collision.*

McGehee's blow-up of triple collision is an important tool for analyzing collision and near-collision solutions in the planar three-body problem. The triple collision point in the four-dimensional configuration space is blown up to a three-sphere which acts as a boundary manifold. On the other hand, in complex geometry a different blow-up method is used in which a point in a complex two-dimenensional (real four-dimensional) space is blown up to a two-sphere which appears as a codimension-two submanifold in the blown-up space. I will describe how to use this complex blow-up as an alternative to McGehee's method and discuss the relationship between the two approaches. Motivation comes from an ongoing project to blow-up all triple collisions in the four-body problem. (Joint work with Richard Montgomery). (Received September 11, 2012)