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Title:

Globally Minimizing Parabolic Solutions in the Newtonian N-body Problem

Abstract:

We study the Newtonian N-body problem in R^Ad and we prove the following result : given any initial configuration and any minimizing central configuration, there exists a globally minimizing parabolic solution starting from the initial configuration and asymptotic to the minimizing central configuration.

We recall that a solution is said to be parabolic if the mutual distances between the bodies become infinite and the speed of each body goes to zero (when the time increase to infinite). The construction of this minimizing parabolic solutions is an application of the direct methods of the Calculus of Variations. It is a joint work with Ezequiel Maderna.