

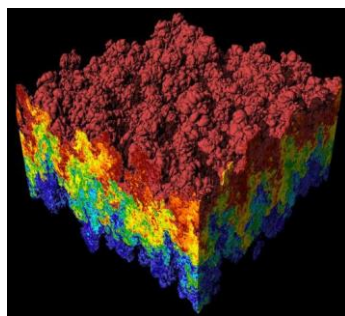


THE DEPARTMENT OF MATHEMATICAL SCIENCES PROUDLY PRESENTS

COLLOQUIUM

FALL 2019

Chaotic dynamics of a three particle array under Lennard--Jones type forces and a fixed area constraint



Dr. Pablo Negrón

UPR-Humacao

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Abstract



We consider the dynamical problem for a system of three particles in which the inter--particle forces are given as the gradient of a Lennard--Jones type potential. Furthermore we assume that the three particle array is subject to the constraint of fixed area. The corresponding mathematical problem is that of a dynamical system over the manifold determined by the area constraint. We study numerically the stability of this system. In particular, using the recently introduced measure of chaos by Hunt and Ott (2015), we study numerically the possibility of chaotic behavior for this system.

Sanchez Hidalgo (SH) 205, 1045 AM
Refreshments will be served 15 minutes
before the colloquium at SH 004