

On the dynamics of the classical atom.

Florin Diacu
diacu@math.uvic.ca
University of Victoria

We study the dynamics of an invariant set of the classical Coulomb atom. The n electrons are positioned at the vertices of a regular polygon that changes size homothetically, while the nucleus moves along a line orthogonal through the center of the polygon. Our main result is that for negative energy the equations of motion have infinitely many periodic solutions.