

1099-37-43

**Maxim Arnold** and **Vadim Zharnitsky\*** (vz@math.uiuc.edu). *Energy growth in switching Hamiltonian systems of Fermi-Ulam type.*

A natural example of a switching Hamiltonian system of Fermi-Ulam type (a particle bouncing between two oscillating walls) is considered. A corresponding smooth in time system would possess invariant KAM tori which would prevent energy growth. Numerical simulations suggest that energy does not grow even in the discontinuous case. We explain this phenomenon using relation with another problem considered earlier by Kesten. (Received January 14, 2014)