1014-37-1366 **Steve Hurder*** (`hurder@uic.edu`), Department of Mathematics, 851 S. Morgan Street, 322 SEO (m/c249), Chicago, IL 60607-7045. *Local entropy of foliations and groupoids.*

The geometric entropy for C^1-foliations and groupoids was introduced by Ghys, Langevin and Walczak in 1988. In this talk, we will discuss a local version of this invariant for foliations, the local entropy, which is analogous to the local entropy for dynamical systems introduced by Brin and Katok. We present several properties of the local foliation entropy which relate its value to the dynamical properties of the leaves of the foliation F.

The local entropy is one of the key concepts used in our proof of the result:

THEOREM: Let F be a C^2-foliation of codimension one of a compact manifold. If the Godbillon-Vey class GV(F) is non-zero in 3-dimensional cohomology, then there is an open subset U of M which is saturated by the leaves of F, the support of the cohomology class GV(F) is contained in U, and the dynamics of F is expansive on U and contains dense collections of hyperbolic ping-pong games. (Received September 28, 2005)