

Meeting: 1002, Pittsburgh, Pennsylvania, SS 12A, Special Session on Geometric Analysis and Partial Differential Equations in Subelliptic Structures

1002-35-135 **Luca Capogna***, Dept. of Mathematics, University of Arkansas, Fayetteville, AR 72701, and
Mario Bonk. *Mean curvature flow in the Heisenberg group.* Preliminary report.

We study a geometric flow which is given by the variation of the perimeter measure in the Heisenberg group. The PDE system which arises is similar to the mean curvature flow in Riemannian geometry but with more degeneracy, due to the existence of characteristic points and to the sub-Riemannian structure. We discuss the connection with the evolution of the associated Legendrian foliation, self-similar solutions, comparison principles, viscosity solutions and the asymptotic behavior. (Received September 12, 2004)