1148-35-23 **Ben Andrews**, **Karoly Boroczky**, **Pengfei Guan*** (pengfei.guan@mcgill.ca) and **Lei Ni**.
Entropy and anisotropic flow by power of Gauss curvature. Preliminary report.

We consider anisotropic flow by the power of the Gauss curvature in Euclidean space $\mathbb{R}^{n+1}$. It is the flow of convex hypersurfaces $X : M \to \mathbb{R}^{n+1}$ by the equation $X_t = -f^\alpha(\nu)K^\alpha(x,t)\,\nu(x,t)$, where ν is the unit exterior normal at $X(x,t)$ of $M_\tau = X(M,t)$, and $K(x,t)$ is the Gauss curvature of M_t at $X(x,t)$. When $f = \alpha = 1$, this is the Gauss curvature flow introduce by Firey to study the process of tumbling stones, K.S. Tso established the existence and Andrews settled the convergence and the uniqueness for the case $n = 2$. The existence and the convergence to a soliton in the case when $f = 1, \alpha > \frac{1}{n+2}$ were proved by Guan-Ni and Andrews-Guan-Ni, and the uniqueness of solitons was proved by Brendle-Choi-Daskalopoulos. Anisotrpic flow is a natural extension of the standard Gauss curvature flow, it is also related to the solution of L^p-Minkowski problem. In this talk, we report results of regularity estimates and longtime convergence of the flow using entropy estimates. We also discuss the space of solitons when f is only assumed to be a probability measure. This is a joint work of Ben Andrews, Karoly Boroczky, Pengfei Guan and Lei Ni. (Received January 06, 2019)