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Pengfei Guan and **Junfang Li*** (jfli@uab.edu). *A mean curvature type of flow and isoperimetric inequality.* Preliminary report.

In this talk, we will present a new type of mean curvature flow. For any closed star-shaped smooth hypersurface, this flow exists for all time $t \in [0, \infty)$ and exponentially converges to a round sphere. Moreover, we will show that all the quermassintegrals evolve monotonically along this flow. As a consequence we prove a class of Alexandrov-Fenchel inequalities including the classical isoperimetric inequality. (Received June 29, 2011)