



Im  
Oberseminar Partielle Differentialgleichungen

wird am

Freitag, dem 18. Juni 2010

folgender Sondervortrag gehalten:

Prof. Dr. James McCoy  
*"Self-similar solutions of fully nonlinear curvature flows"*.

Zeit: 18:15

Raum: F 423

Interessenten sind herzlich willkommen!

R.Denk, H.Freistühler, O.Schnürer

**Abstract:** We consider closed hypersurfaces which shrink self-similarly under a natural class of fully nonlinear curvature flows. For those flows in our class with speeds homogeneous of degree  $1$  and either convex or concave, we show that the only such hypersurfaces are shrinking spheres. In the setting of convex hypersurfaces, we show under a weaker second derivative condition on the speed that again only shrinking spheres are possible. For surfaces this result is extended in some cases by a different method to speeds of homogeneity greater than  $1$ . Finally we show that self-similar hypersurfaces with sufficiently pinched principal curvatures, depending on the flow speed, are again necessarily spheres.