

1145-35-268

Brian Allen* (brianallenmath@gmail.com). *Using geometric evolution equations to show stability in mathematical relativity.*

In this talk we will discuss the recent papers by the author where the geometric evolution equation, Inverse Mean Curvature Flow (IMCF), has been used to define special coordinates in order to show stability of important theorems in mathematical relativity. We will start by introducing the fully nonlinear, parabolic equation and discussing its important geometric properties, as well as introduce theorems from mathematical relativity with little prior background needed. (Received August 27, 2018)