ΠΑΝΕΠΙΣΤΗΜΙΟ ΙΩΑΝΝΙΝΩΝ

ΤΜΗΜΑ ΜΑΘΗΜΑΤΙΚΩΝ

Εβδομαδιαίο Σεμινάριο

A CHARACTERIZATION OF THE GRIM REAPER CYLINDER

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A hypersurface Σ of the euclidean space is called translating soliton of the mean curvature flow if its mean curvature vector H satisfies the partial differential equation,

$$H = V^{\perp},$$

where V stands for a unit vector on the ambient space and $V^{\perp}$ denotes the projection of V on the normal bundle Σ. Such hypersurfaces are important in the singular analysis of the flow because often they appear as Type-II singularities. After a brief introduction on singular analysis, I will show that a properly embedded 2-dimensional translating soliton which is C^1-asymptotic outside a cylinder to two planes, either is flat or coincides with the grim reaper cylinder.

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