

An asymmetric curvature flow and ellipsoids of revolution

Alina Stancu

Concordia University

We study an anisotropic curvature flow of smooth, compact, convex hypersurfaces in Euclidean space where the speed is not symmetric in the principal curvatures. Due to the asymmetry of the speed in the principal curvatures, only certain ellipsoids evolve homothetically, in contrast to the situation with the flow by the affine normal, revealing a connection with certain Weingarten hypersurfaces. (Joint work with Valentina-Mira Wheeler)

In Special Session 5 on Convexity, High-Dimensional Probability and Applications at the Mathematical Congress of the Americas 2025.