Title: The amalgamatic curvature and the orthocurvatures of three dimensional hypersurfaces in the Euclidean space

Author(s): Bogdan D. Suceavă

The amalgamatic curvature $A(p)$ is a natural geometric quantity whose construction parallels that of classical scalar curvature. Its role in a ladder of curvatures corresponds to the role of harmonic mean in the classical ladder of power means, i.e. to the mean of power $−1$. In the present work we determine lower and upper bounds for the range of the absolute mean curvature in function of the amalgamatic curvature. Then, we introduce the orthocurvatures of a three-dimensional hypersurface in Euclidean ambient space and study several inequalities for some of these new curvature invariants.

Address:
Bogdan D. Suceavă
Department of Mathematics
California State University, Fullerton
Fullerton, CA 91834-6850
USA