ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

5. Differential Geometry and Global Analysis

1991 MS Classification: 53, 52

Bogaevski, Ilia A., Independent University of Moscow, Russia:

Singularities of convex hulls of closed hypersurfaces.

We investigate singularities of the convex hull of a generic compact smooth hypersurface in four-dimensional affine space up to diffeomorphisms. It turns out there are only two new singularities (in comparison with the previous dimension case) which appear at separate points of the boundary of the convex hull and are not removed by small perturbation of the original hypersurface. The first singularity does not contain functional, but has at least nine number moduli. A normal form which does not contain moduli at all is found for the second singularity.

Reference: I. A. Bogaevski, Singularities of convex hulls of three-dimensional hypersurfaces, *Proc. Steklov Inst. Math.* **221** (1998), forthcoming.