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**Stephanie Alexander\*** ([sba@math.uiuc.edu](mailto:sba@math.uiuc.edu)), Department of Mathematics, 273 Altgeld Hall, 1409 West Green Street, Urbana, IL 61801, and **Mohammad Ghomi** ([ghomi@math.sc.edu](mailto:ghomi@math.sc.edu)), Department of Mathematics, University of South Carolina, Columbia, SC 29208. *The Convex Hull Property and Topology of Hypersurfaces with Nonnegative Curvature.*

We prove that, in Euclidean space, any nonnegatively curved, compact, smoothly immersed hypersurface lies outside the convex hull of its boundary, provided that the boundary satisfies certain required conditions. This is a new convex hull property, dual to the classical one for surfaces with nonpositive curvature. Furthermore, we show that our boundary conditions determine the topology of the hypersurface up to at most two choices. Analogous results are obtained in the nonsmooth category. Our proof uses uniform estimates for radii of convexity of locally convex hypersurfaces under a clipping procedure, together with a gluing procedure. A convergence theorem for locally convex hypersurfaces is proved. Several examples and special cases are considered, including the case of flat boundary components. (Received January 23, 2001)