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**John C. Bowers\*** ([bowersjc@jmu.edu](mailto:bowersjc@jmu.edu)), ISAT-CS Building MSC 4103, 701 Carrier Drive, Harrisonburg, VA 22807, **Philip L. Bowers** ([bowers@math.fsu.edu](mailto:bowers@math.fsu.edu)), 208 Love Building, 1017 Academic Way, Tallahassee, FL 32306-4510, and **Kevin Pratt**, Computer Science & Engineering Department, Storrs, CT 06269-4155. *Cauchy Rigidity of Convex c-Polyhedra.*

A c-polyhedron is a generalization of circle packings on the sphere to circle patterns with specified inversive distances between adjacent circles where the underlying 1-skeleton need not be a triangulation. In this talk we prove that any two convex c-polyhedra with inversive congruent faces are inversive congruent. The proof follows the pattern of Cauchy's proof of his celebrated rigidity theorem for convex Euclidean polyhedra. The trick in applying Cauchy's argument in this setting is in constructing hyperbolic polygons around each vertex in a c-polyhedron on which a variant of Cauchy's arm lemma can be applied. (Received September 20, 2016)