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**Emily B. Proctor\*** ([eproctor@middlebury.edu](mailto:eproctor@middlebury.edu)), Department of Mathematics, Warner Hall, Middlebury College, Middlebury, VT 05753, and **Elizabeth A. Stanhope** ([stanhope@lclark.edu](mailto:stanhope@lclark.edu)), Lewis & Clark College, Department of Mathematical Sciences, 0615 SW Palatine Hill Rd., MSC 110, Portland, OR 97219. *Bounds on 2-orbifold diffeomorphism type.*

The familiar geometric notions of curvature, diameter, volume, and the Laplace spectrum generalize from Riemannian manifolds to Riemannian orbifolds. One can also generalize the topological notion of a diffeomorphism to the orbifold category. An orbifold diffeomorphism represents an equivalence of the smooth orbifold structure as well as of the underlying topological space. We show that any collection of 2-orbifolds with lower bounds on sectional curvature and volume, and an upper bound on diameter, can contain only finitely many orbifold diffeomorphism types. As a consequence we also show that any collection of Laplace isospectral 2-orbifolds sharing a lower bound on sectional curvature can contain only finitely many orbifold diffeomorphism types. (Received February 26, 2009)