1151-57-102        **James Farre\*** (`james.farre@yale.edu`). *Addition in Bounded Cohomology.*

The bounded cohomology of a discrete group encodes a wealth of algebraic, geometric, and topological data. We will define bounded cohomology and construct the bounded volume class of an isometric group action on hyperbolic 3-space. When the group action is nice enough, the space of orbits is a complete hyperbolic 3-manifold, and the volume class arises from computing the volumes of locally geodesic tetrahedra, based at a point. It turns out that the volume classes distinguish exactly the bi-Lipschitz classes of hyperbolic structures of infinite volume without rank-one cusps on a fixed 3-manifold. We will use this fact to interpret addition in bounded cohomology as a kind of 'geometric connected sum' operation on hyperbolic manifolds homeomorphic to the product of a closed surface and the real line. (Received August 11, 2019)