1093-57-172 **Hongbin Sun***, Department of Math, Princeton University, Fine Hall, Washington Road, Princeton, NJ 08540. Virtual Homological Torsion of Closed Hyperbolic 3-manifolds. Preliminary report.

We will generalize Kahn and Markovic's construction of almost geodesic surfaces to construct certain π_1 -injective 2complexes in closed hyperbolic 3-manifolds. Such 2-complexes are locally almost totally geodesic except along a 1dimensional subcomplex. Using Agol's result that fundamental groups of hyperbolic 3-manifolds are LERF, we will show that closed hyperbolic 3-manifolds virtually contain any prescribed homological torsion: For any finite abelian group A, and any closed hyperbolic 3-manifold M, we can find a finite cover N of M, such that A embeds into $Tor(H_1(N;\mathbb{Z}))$. (Received August 12, 2013)