1023-57-1205   **Stanislav Jabuka*** (`jabuka@unr.edu`), Department of Mathematics and Statistics, University of Nevada Reno, Reno, NV 89557, and **Thomas Mark** (`tmark@virginia.edu`), Department of Mathematics, University of Virginia, P.O. Box 400137, Charlottesville, VA 22904. *Torsion in Heegaard Floer homology.*

The Heegaard Floer homology groups are invariants for 3-manifolds recently discovered by Peter Ozsváth and Zoltán Szabó. These invariants are Abelian groups often equipped with additional structures such as a $\mathbb{Q}$-grading or a module structure over certain rings.

There is a priori no reason why the Heegaard Floer homology groups should not contain torsion subgroups and yet in the many examples which have been calculated to date, torsion is utterly absent. Joint work with Tom Mark has led to the discovery of the first (to our knowledge) example of a 3-manifold which carries torsion in its HF^+ group. The manifold is very simple - a surface of genus g times a circle - yet the structure of HF^+ for the torsion spin^c-structure is surprisingly rich. The amount of torsion in HF^+ grows significantly with the genus.

It is instructive to compare these results with Khovanov homology where 2-torsion is commonplace and found in an abundance of examples. (Received September 25, 2006)