1037-20-292   **Nathan Broaddus***, Department of Mathematics, University of Chicago, 5734 S University Ave, Chicago, IL 60637, and **Benson Farb** and **Andrew Putman**. *The Casson invariant and the word metric on the Torelli group.*

We bound the value of the Casson invariant of any integral homology 3-sphere M by a constant times the distance-squared to the identity, measured in any word metric on the Torelli group $\mathcal{I}$, of the element of $\mathcal{I}$ associated to any Heegaard splitting of M. We construct examples which show this bound is asymptotically sharp. (Received February 04, 2008)