1077-57-1801 **Adam Simon Levine*** (levinea@brandeis.edu), Department of Mathematics, MS 050, Brandeis University, Waltham, MA 02138, and **Sam Lewallen** (lewallen@math.princeton.edu), Department of Mathematics, Princeton University, Princeton, NJ 08544. *Strong L-Spaces and Left Orderability.*

An L-space is a rational homology sphere Y whose Heegaard Floer homology is as small as possible: $\widehat{HF}(Y) \cong \mathbb{Z}^{|H_1(Y;\mathbb{Z})|}$. Boyer, Gordon, and Watson have conjectured that Y is an L-space if and only if the fundamental group of Y is non-left-orderable, a conjecture that is known to hold for all non-hyperbolic geometric manifolds. We show that if an L-space Y admits a Heegaard diagram whose Heegaard Floer complex has exactly $|H_1(Y;\mathbb{Z})|$ generators and thus has vanishing differential, then $\pi_1(Y)$ is non-left-orderable. We call such manifolds strong L-spaces. Examples include double branched covers of alternating links; on the other hand, the Poincaré homology sphere is an L-space but not a strong L-space. (Received September 21, 2011)