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Ciprian Manolescu*, Department of Mathematics, UCLA, 520 Portola Plaza, Los Angeles, CA 90095, and **Robert Lipshitz** and **Jiajun Wang**. *Combinatorial Heegaard-Floer invariants for four-dimensional cobordisms*.

Hat Heegaard Floer theory assigns a finitely generated abelian group to each three-manifold, and a group homomorphism to each (decorated) four-dimensional cobordism. The corresponding hat invariants for closed 4-manifolds are trivial, but for 4-manifolds with boundary they are strong enough to detect exotic smooth structures. Sarkar and Wang gave a combinatorial description of the hat invariant for any 3-manifold. I will talk about joint work with Lipshitz and Wang, in which we described combinatorially the hat invariants for cobordisms with trivial first homology. (Received August 23, 2008)