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Mod 2 homology of the stable spin mapping class group. (English) Zbl 1102.55005
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Author's abstract: Using the main result of *I. Madsen* and *M. Weiss* [The stable moduli space of Riemann surfaces: Mumford's conjecture, arXiv:math.AT/0212321 (2002)], we compute the mod 2 homology of spin mapping class groups in the stable range. In earlier work [Topology 43, No. 5, 1105–1132 (2004; Zbl 1074.57013)], we computed the stable mod p homology of the oriented mapping class group, and the methods and results here are very similar. The forgetful map from the spin mapping class group to the oriented mapping class groups induces a homology isomorphism for odd p but for $p = 2$ it is far from being an isomorphism. We include a general discussion of tangential structures on 2-manifolds and their mapping class groups and then specialise to spin structures.

Reviewer: [Mustafa Korkmaz \(Ankara\)](#)

MSC:

- [55R40](#) Homology of classifying spaces and characteristic classes in algebraic topology Cited in 4 Documents
- [55P47](#) Infinite loop spaces
- [55R20](#) Spectral sequences and homology of fiber spaces in algebraic topology
- [57M50](#) General geometric structures on low-dimensional manifolds
- [57M99](#) General low-dimensional topology

Keywords:

[stable spin mapping class group](#); [mod 2 homology](#)

Full Text: [DOI](#)

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