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On equivariant and motivic slices. (English) Zbl 1441.14077

Algebr. Geom. Topol. 19, No. 7, 3641-3681 (2019).

Summary: Let k be a field with a real embedding. We compare the motivic slice filtration of a motivic spectrum over $\mathrm{Spec}(k)$ with the C_2-equivariant slice filtration of its equivariant Betti realization, giving conditions under which realization induces an equivalence between the associated slice towers. In particular, we show that, up to reindexing, the towers agree for all spectra obtained from localized quotients of $\boldsymbol{MGL}$ and $M\mathbb{R}$, and for motivic Landweber exact spectra and their realizations. As a consequence, we deduce that equivariant spectra obtained from localized quotients of $M\mathbb{R}$ are even in the sense of *M. A. Hill* and *L. Meier* [Algebr. Geom. Topol. 17, No. 4, 1953–2011 (2017; Zbl 1421.55002)], and give a computation of the slice spectral sequence converging to $\pi_{*,*}\boldsymbol{BP}\langle n\rangle/2$ for $1 \leq n \leq \infty$.

MSC:

14F42 Motivic cohomology; motivic homotopy theory
55P91 Equivariant homotopy theory in algebraic topology
18G80 Derived categories, triangulated categories
55N20 Generalized (extraordinary) homology and cohomology theories in algebraic topology
55P42 Stable homotopy theory, spectra

Keywords:

motivic homotopy; equivariant homotopy theory; slice filtration; slice spectral sequence

Full Text: DOI

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