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Faithfulness of a functor of Quillen. (English) Zbl 1227.18014

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Summary: There exists a canonical functor from the category of fibrant objects of a model category modulo cylinder homotopy to its homotopy category. We show that this functor is faithful under certain conditions, but not in general.

MSC:

18G55 Nonabelian homotopical algebra (MSC2010)

55U35 Abstract and axiomatic homotopy theory in algebraic topology

Keywords:

model categories; fibrant objects; cofibrant objects; homotopy; faithful

Full Text: [DOI](#) [arXiv](#)

References:

- [1] K S Brown, Abstract homotopy theory and generalized sheaf cohomology, Trans. Amer. Math. Soc. 186 (1974) 419 · [Zbl 0245.55007](#) · [doi:10.1090/S0002-9947-1973-0341469-9](#)
- [2] D Happel, Triangulated categories in the representation theory of finite-dimensional algebras, London Math. Society Lecture Note Ser. 119, Cambridge Univ. Press (1988) · [Zbl 0635.16017](#)
- [3] P S Hirschhorn, Model categories and their localizations, Math. Surveys and Monogr. 99, Amer. Math. Soc. (2003) · [Zbl 1017.55001](#)
- [4] M Hovey, Model categories, Math. Surveys and Monogr. 63, Amer. Math. Soc. (1999) · [Zbl 0909.55001](#)
- [5] D G Quillen, Homotopical algebra, Lecture Notes in Math. 43, Springer (1967) · [Zbl 0168.20903](#) · [doi:10.1007/BFb0097438](#)

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