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The p-order of topological triangulated categories. (English) Zbl 1294.18008

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Triangulated categories are called algebraic in case they are constructed by localising procedures of homotopy categories of chain complexes of additive categories. Non-algebraic triangulated categories are called topological. The purpose of the present paper is to study the concept of a p-order of a triangulated category for a prime p in case of topological triangulated categories. The main result shows that the p-order of a topological triangulated category is at most $p-1$, and in a second paper the author shows that the p-order of an algebraic triangulated category is always infinite. The main part of the paper defines and studies so-called cofibration categories, which are defined by a variant of Quillen's axiom of a model category. The proof of the main result then passes to the homotopy category of so-called stable cofibration categories. An appendix gives a detailed construction of the homotopy category of a stable cofibration category and a proof that this category then is triangulated.

Reviewer: Alexander Zimmermann (Amiens)

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