

Closed multicategory of A_∞ -categories

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Over the last decade, A_∞ -algebras and A_∞ -categories have enjoyed a resurgence of interest due to applications in non-commutative geometry, representation theory, and physics. Our interest in A_∞ -categories is due to recent developments in homological algebra (Bondal and Kapranov, Drinfeld, Keller, ...). We share the confidence that large part of homological algebra can be rewritten in the language of so called pretriangulated A_∞ -categories rather than that of triangulated categories. We are developing a comprehensive theory of pretriangulated A_∞ -categories in the book in progress [1]. It is based on the observation that A_∞ -categories constitute a closed symmetric multicategory. In the talk, I am going to briefly discuss relevant notions and ideas of proof.

REFERENCES

- [1] Yuri Bespalov, V. V. Lyubashenko, and Oleksandr Manzyuk, *Closed multicategory of pretriangulated A_∞ -categories*, book in progress, 2007.

*Joint work with Yuri Bespalov and Volodymyr Lyubashenko.