

RAMSEY THEORY OF CARDINALS, ORDINALS, TREES, AND PARTIAL ORDERS

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We explore results of Ramsey theory (also known as partition calculus) and show how they apply to cardinals, ordinals, trees, and arbitrary partial orders, leading up to the following main result:

Main Theorem. *Let κ be any infinite regular cardinal, let ξ be any ordinal such that $2^{|\xi|} < \kappa$, and let k be any natural number. Then*

$$\text{non-}(2^{<\kappa})\text{-special tree} \rightarrow (\kappa + \xi)_k^2.$$

This is a generalization to trees of the Balanced Baumgartner-Hajnal-Todorcevic Theorem, which we recover by applying the above to the cardinal $(2^{<\kappa})^+$, the simplest example of a non- $(2^{<\kappa})$ -special tree.

A full exposition of the results is contained in my PhD thesis, [1].

REFERENCES

- [1] Ari Meir Brodsky, *A Theory of Stationary Trees and the Balanced Baumgartner-Hajnal-Todorcevic Theorem for Trees*, Ph.D. thesis, University of Toronto, 2014, available at <http://hdl.handle.net/1807/68124>.
- [2] Ari Meir Brodsky, *A Theory of Stationary Trees and the Balanced Baumgartner-Hajnal-Todorcevic Theorem for Trees*, *Acta Mathematica Hungarica*, 2014, DOI:10.1007/s10474-014-0419-z.

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