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Some results on the Baire Rado Conjecture

Baire Rado's Conjecture (RC^b in short, introduced by Todorcevic as a weakening of the Rado's Conjecture) asserts that any non-trivial Baire tree of height ω_1 has a nonspecial subtree of size $\leq \aleph_1$. It is incompatible with MA. This work is motivated by the question "which fragment of forcing axioms is compatible with RC^b". A poset is Baire Indestructibly Proper (BIP) is it remains proper in any forcing extension by a Baire tree. We will show RC^b is compatible with $MA_{\omega_1}(BIP)$ and as a consequence RC^b does not imply RC. If time permits we will talk about the interaction of RC^b with other combinatorial principles like simultaneous stationary reflection, versions of weak squares and polarized partition relations.

[1] Jing Zhang, Rado's Conjecture and its Baire Version. preprint, https://arxiv.org/abs/1712.02455.