

STRONGLY UNBOUNDED AND STRONGLY DOMINATING SETS GENERALIZED WITH RESPECT TO A FIXED IDEAL

MICHAL DEČO

ABSTRACT. We generalize the notions of strongly unbounded and strongly dominating subset of the Baire space. In order to capture these two generalized notions at once, we introduce $DU_{\mathcal{I}}$ -property, where \mathcal{I} is an ideal on cardinal κ . We use the two player game defined in a Kechris's paper (Trans. Amer. Math. Soc. **229** (1977), 191–207) to show that a variant of perfect set theorem for sets with $DU_{\mathcal{I}}$ -property holds true.

INSTITUTE OF MATHEMATICS, P. J. ŠAFÁRIK UNIVERSITY, JESENNÁ 5, 041 54 KOŠICE, SLOVAKIA
E-mail address: `michal.deco@student.upjs.sk`

2000 *Mathematics Subject Classification.* Primary: 03E15; Secondary: 03E50, 91A44.

Key words and phrases. strongly dominating set, Laver perfect set, strongly unbounded set, superperfect set, ideal, κ -Suslin set, two player game, Borel determinacy.

Author was supported by grants VEGA 1/0002/12 and VVGS-PF-2013-97.