ABOUT THE REAPING NUMBER OF DENSE SUBSETS OF THE RATIONALS

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Cardinal invariants of the boolean algebra $\mathcal{P}(\mathbb{Q})/\mathsf{nwd}$ where studied by B. Balcar, F. Hernández-Hernández, and M Hrušák in [1]. In this paper they proved several relations between these cardinal invariants. Among these invariants is the reaping number of the boolean algebra $\mathcal{P}(\mathbb{Q})/\mathsf{nwd}$, denoted by $\mathfrak{r}_{\mathsf{nwd}}$. In [1] they proved the sequence of inequalities $\max\{\mathfrak{r}, \mathsf{cof}(\mathcal{M})\} \leq \mathfrak{r}_{\mathsf{nwd}} \leq \mathfrak{i}$, and they asked whether the inequality $\mathfrak{r}_{\mathsf{nwd}} < \mathfrak{i}$ is relatively consistent with ZFC. In this talk we will sketch a proof of the consistency of this inequality.

[1] B. Balcar, F. Hernandez-Hernandez, and M. Hrusak. Combinatorics of dense subsets of the rationals. Fund. Math., 183(1):59-80, 2004