

THE COFINALITY OF THE SYMMETRIC GROUP AND THE COFINALITY OF ULTRAPOWERS

HEIKE MILDENBERGER

In this talk I report on two consistency results. We compare the minimal cofinality \mathfrak{mcf} of an ultrapower over ω with the cofinality of the symmetric group. Both have similar upper and lower estimates. We prove that $\mathfrak{mcf} < \text{cf}(\text{Sym}(\omega))$ and $\mathfrak{mcf} > \text{cf}(\text{Sym}(\omega)) = \mathfrak{b}$ are both consistent relative to ZFC. This answers a question by Banach, Repovš and Zdomskyy and a question from an earlier paper of ours.

I will describe some aspects of the combination of combinatorial ideas with forcing technique that allows to construct the models.

This is joint work with Shelah.