

Why the weak GCH is true!

By the weak GCH we mean the assertion: $2^\lambda < 2^{\lambda^+}$. We will argue for the acceptance of this axiom on grounds of its coherence with our intuitions of cardinal arithmetic and its consequences for mathematical practice. The second argument is mediated by the Devlin-Shelah weak diamond. We will explain this principle, which follows easily from weak GCH, and discuss some of its consequences. These include a version of Morley's theorem for $L_{\omega_1, \omega}$ (Shelah) and implications for the study of semi-abelian varieties (Zilber).

The goal of the UIC talk will be to derive Weak Diamond from weak GCH, sketch a bit of context/consequences, and poses some open problems.

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