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Big Ramsey degrees and posets of ages in infinitely-constrained binary free amalgamation classes

For a finite binary relational language L and a family $\mathcal{F}$ of finite irreducible L-structures, $\mathrm{Forb}(\mathcal{F})$ is the Fraïssé class of finite $\mathcal{F}$-free L-structures. Generalizing methods of Dobrinen, Zucker showed that $\mathrm{Forb}(\mathcal{F})$ has finite big Ramsey degrees when $\mathcal{F}$ is finite, while Sauer showed that there are infinite families $\mathcal{F}$ for which vertices have infinite big Ramsey degree. We study the possible structure of the associated partial orders known as posets of ages, and construct an infinitely-constrained binary free amalgamation class with finite big Ramsey degrees, providing a counterexample to a conjecture of Balko, Chodounský, Dobrinen, Hubička, Konečný, Vena, and Zucker. This is joint work with Andy Zucker.