

# Phase transitions in Ramsey theory

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We investigate Ramsey functions which depend on a number-theoretic function parameter  $f$ . For constant functions  $f$  the induced Ramsey functions will behave like the classical ones. If the parameter function grows at least as quick as the identity function then the induced Ramsey functions becomes rapidly growing (like the Paris-Harrington functions).

We show in several examples how the transition from usual to rapid growth of the induced Ramsey function can be classified in terms of the parameter function.

At the end we try to describe the underlying big picture. The idea is to connect finitary, Paris-Harrington style and infinitary Ramsey theory.

Finally will will discuss some open problems.