

# **Infinite-dimensional Ramsey theory for binary relational FAP classes**

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We develop infinite-dimensional Ramsey theory for Fraïssé limits of finitely constrained binary relational FAP classes. In our spaces, Souslin-measurable colorings are Ramsey, and for spaces of so-called strong diaries we obtain analogues of the Ellentuck Theorem. Our results are optimal and recover exact big Ramsey degrees via uniform clopen colorings. A key step in the proof is the development of the new notion of an  $A.3(2)$ -ideal and a proof that Todorćević's Abs tract Ramsey Theorem still holds when Axiom  $A.3(2)$  is replaced by the weaker assumption of an  $A.3(2)$ -ideal. This is joint work with Andy Zucker.

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