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*Diverse homogeneous sets.* (In English)

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Let  $\omega$  be the set of natural numbers, and  $[\omega]^2$  the set of two-element subsets of  $\omega$ . A set  $H \subseteq \omega$  is said to be *diverse* with respect to a partition  $\pi$  of  $\omega$  if at least two pieces of  $\pi$  have an infinite intersection with  $H$ . A family of partitions of  $\omega$  has the Ramsey property if, whenever  $[\omega]^2$  is two-coloured, some monochromatic set is diverse with respect to at least one partition in the family. The authors show that no countable collection of even infinite partitions of  $\omega$  has the Ramsey property, but there always exists a collection of  $\aleph_1$  finite partitions of  $\omega$  with the Ramsey property.

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Classification:

05A18 Partitions of sets

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diverse homogeneous sets; Ramsey property; partition