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Rainbow Hamiltonian paths and canonically colored subgraphs in infinite complete graphs. (In English)

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The authors establish the existence of a Hamiltonian path with no two edges of the same colour in an edge-coloured complete graph in terms of a forbidden edge-coloured subgraph and under the assumption that each vertex degree in each monochromatic subgraph is of finite measure with respect to a fixed 0-1 measure on the vertex set. They also introduce so-called canonically coloured subgraphs and investigate how large they can be.

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Classification: 05C55 Generalized Ramsey theory 05C15 Chromatic theory of graphs and maps 05C45 Eulerian and Hamiltonian graphs Keywords: Hamiltonian path; canonically coloured subgraphs