Summary: Given a graph $G$, the anti-Ramsey number $AR(K_n, G)$ is defined to be the maximum number of colors in an edge-coloring of $K_n$ which does not contain any rainbow $G$ (i.e., all the edges of $G$ have distinct colors). The anti-Ramsey number was introduced by P. Erdős et al. \cite{Erdos75} and so far it has been determined for several special graph classes. Another related interesting problem posed by Erdős et al. is the uniqueness of the extremal coloring for the anti-Ramsey number. Contrary to the anti-Ramsey number, there are few results about the extremal coloring. In this paper, we show the uniqueness of such extremal coloring for the anti-Ramsey number of matchings in the complete graph.

**MSC:**

- 05C15 Coloring of graphs and hypergraphs
- 05C35 Extremal problems in graph theory
- 05C55 Generalized Ramsey theory
- 05C70 Edge subsets with special properties (factorization, matching, partitioning, covering and packing, etc.)
- 05D10 Ramsey theory

**Keywords:**

- anti-Ramsey number
- rainbow matching
- extremal coloring

**Full Text:** DOI

**References:**

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