

Reconfiguration of homomorphism extensions

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For a graph H the reconfiguration/mixing versions of the extension problem for H asks, of a given graph G with a partial H -colouring p , if one can move between different homomorphisms extending p , by changing the image of one vertex at a time.

We characterise the graphs H for which one can do so for any choice of G and p and any pair of homomorphisms extending p .

We also consider the number of changes one must make, and apply the result to the shortest path reconfiguration problem.

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