

On consecutive colouring and re-consecutiveness of oriented graphs

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We consider an arc colouring of oriented graphs such that for each vertex the colours of all out-arcs incident with the vertex and the colours of all in-arcs incident with the vertex form intervals. Oriented graphs having such the colouring are called consecutively colourable. We analyze the parameter $rc(D)$ which denotes the minimum number of arcs of D that should be reversed so that a resulting oriented graph is consecutively colourable. We prove that for each non-negative integer p there exists an oriented graph D with the property $rc(D) \geq p$. Next, we show an upper bound on $rc(D)$ for some classes of oriented graphs D .

References

- [1] M. Borowiecka-Olszewska, E. Drgas-Burchardt, N.Y. Javier Nol, R. Zuazua, Consecutive colouring of oriented graphs, *Results Math.* 2021 Article 200.
- [2] M. Borowiecka-Olszewska, E. Drgas-Burchardt, R. Zuazua, On consecutive colouring and re-consecutiveness of oriented graphs, 2022, manuscript.