

# Injective Oriented Colourings

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*Oriented colourings* are vertex colourings of oriented graphs that respect the direction of the arcs: whenever there is an arc from a vertex coloured  $i$  to a vertex coloured  $j \neq i$ , there is no arc from a vertex coloured  $j$  to a vertex coloured  $i$ . One definition of an *injective* oriented colouring is that no two in-neighbours of a vertex are assigned the same colour. Colourings of this type need not assign different colours to adjacent vertices. The goal is to discuss the aspects of the theory of these colourings that relate to homomorphism models, complexity, algorithms, critical digraphs, obstructions, and bounds, as well as similar results for other possible meanings of “injective”.