

# ORIENTED INCIDENCE COLOURINGS OF DIGRAPHS

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ABSTRACT. Brualdi and Quinn Massey [1] defined incidence colouring while studying the strong edge chromatic index of bipartite graphs. In this talk we will present a similar concept that we introduced for digraphs and we will define the oriented incidence chromatic number. Using digraph homomorphism, we will show that the oriented incidence chromatic number of a digraph is closely related to the chromatic number of the underlying simple graph.

We will give upper and lower bounds for the oriented incidence chromatic number of symmetric complete digraphs, as well as digraphs arising from common graph constructions and decompositions.

## REFERENCES

- [1] R.A. Brualdi and J.J.Q. Massey. Incidence and strong edge colorings of graphs, *Discrete Mathematics*, 122: 51–58, 1993.