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## Coloring Digraphs Containing No Cycles With Two Blocks

### Abstract for the Combinatorics Seminar 2017 April 25

A cycle with two blocks  $c(k,l)$  is an oriented cycle consisting of two internally disjoint directed paths of lengths at least  $k$  and  $l$ , respectively, from a vertex to another one. In 2007, Addario-Berry, Havet, and Thomassé asked if every strongly connected digraph  $D$  containing no  $c(k,l)$  has chromatic number at most  $k+l-1$ . In this talk, I show that such a digraph  $D$  has chromatic number at most  $O((k+l)^2)$ , improving the previous upper bound  $O((k+l)^4)$  of Cohen, Havet, Lochet, and Nisse.

This is joint work with Seog-Jin Kim, Jie Ma, and Boram Park.

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