

# On almost Moore digraphs

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## Abstract

Let  $d \geq 2$  and  $k \geq 1$  be two natural numbers. An *almost Moore digraph* is defined as a diregular digraph of degree  $d$ , diameter  $k$  and order  $d + d^2 + \dots + d^k$ , and it is denoted by  $(d, k)$ -digraph.

The question of the existence of  $(d, k)$ -digraphs has received a lot of attention. For some small values of  $d$  or  $k$  we have known the answers, but for other cases the question remains open. In this talk, we will discuss the possible structures of  $(d, k)$ -digraphs (if they exist) for  $d \geq 4$  and  $k \geq 5$ .

Open problems related to this study are also presented.