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**Jeong-Hyun Kang\*** (jkang@westga.edu), Department of Mathematics, University of West Georgia, Carrollton, GA 30118, and **Hiren Maharaj** (hmahara@clemsun.edu), Department of Mathematical Sciences, Clemson University, Clemson, SC 29634. *Distance graph –  $p$ -adic approach.*

For a given subset  $D$  of the positive integers, the integer distance graph  $G(\mathbb{Z}, D)$  is defined on the set of integers as vertex set and two vertices are adjacent if the (Euclidean) distance between them belongs to  $D$ . We want to characterize its chromatic number according to the distance set  $D$ .

The integer distance graphs were first systematically studied by Eggleton–Erdős–Skilton in 1985, and have been investigated in many ways.

In this talk, we approach the problem under  $p$ -adic norm. The chromatic numbers of some distance sets will be determined under  $p$ -adic distance. We discuss how the  $p$ -adic results can be connected to and complement some of the results in Euclidean norm.

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