

Utorak, 11.06.2019. u 14h, sala 301f, MI SANU :

Ismael González Yero, Departamento de Matemáticas, Escuela Politécnica Superior de Algeciras, Universidad de Cádiz, Spain

## ON THE FRACTIONAL VERSION OF THE $k$ -METRIC DIMENSION OF GRAPHS

Abstract: Let  $G$  be a graph with vertex set  $V(G)$ . For any two distinct vertices  $x$  and  $y$  of  $G$ , let  $R\{x, y\}$  denote the set of vertices  $z$  such that the distance from  $x$  to  $z$  is not equal to the distance from  $y$  to  $z$  in  $G$ . For a function  $g$  defined on  $V(G)$  and for  $U \subseteq V(G)$ , let  $g(U) = \sum_{s \in U} g(s)$ . Let  $\kappa(G) = \min\{|R\{x, y\}| : x \neq y \text{ and } x, y \in V(G)\}$ . For any real number  $k \in [1, \kappa(G)]$ , a real-valued function  $g : V(G) \rightarrow [0, 1]$  is a  $k$ -resolving function of  $G$  if  $g(R\{x, y\}) \geq k$  for any two distinct vertices  $x, y \in V(G)$ . The fractional  $k$ -metric dimension,  $\dim_f^k(G)$ , of  $G$  is  $\min\{g(V(G)) : g \text{ is a } k\text{-resolving function of } G\}$ . Several results on the fractional  $k$ -metric dimension of graphs shall be presented in this talk.