ISTANBUL KÜLTÜR UNIVERSITY

A Journey from Groups and Rings to Graphs and Codes

S. Khalid Nauman

King Abdulaziz University

Jeddah, Saudi Arabia

Abstract

Considering the structure of additive Klein 4-groups, one can construct a class of rings of order an exponent of 2. These rings are non-commutative and without identity and every element of it is a divisor of zero. In this talk we will develop such rings and we will see that the zero-divisor graph of such a ring is the union of a complete graph and a complete bipartite graph. The coding of these rings can be done by using binary or Gray codes. The 64 codons in a DNA code can also be compared with the binary code words of the ring with 64 elements.

Date: Wednesday, April 5, 2017
Time: 14:45
Place: Erdal İNÖNÜ Seminar Hall, Ataköy Campus, İstanbul Kültür University