

# IMPROVED LOWER BOUND FOR 2-IDENTIFYING CODE IN THE SQUARE GRID

VILLE JUNNILA

Previously,  $r$ -identifying codes have been studied in various grids. In particular, it has been shown that there exists a 2-identifying code in the square grid with density  $5/29 \approx 0.172$  and that there are no 2-identifying codes with density smaller than  $3/20 = 0.15$ . Recently, the lower bound has been improved to  $6/37 \approx 0.162$  by Martin and Stanton (2010). In this presentation, we further improve the lower bound by showing that there are no 2-identifying codes in the square grid with density smaller than  $6/35 \approx 0.171$ .