

## LIST OF FIGURES

FIGURE. 1 TYPICAL VANET COMMUNICATIONS [17] .....	2
FIGURE. 2 THE EPS NETWORK ELEMENTS [30] .....	13
FIGURE. 3 TYPES OF MOBILITY MODELS [7] .....	16
FIGURE. 4 TRAJECTORY PATTERN OF A MOBILE NODE USING THE RANDOM WAYPOINT MOBILITY MODEL WITHIN A BOUNDED AREA OF 1,000 X 1,000 M2.....	17
FIGURE. 5 CHANGE OF MEAN ANGLE NEAR THE EDGES (IN DEGREES) USING GAUSS-MARKOV MOBILITY MODEL [28].....	19
FIGURE. 6 MOVEMENT PATTERNS OF MOBILE NODES USING GAUSS-MARKOV MOBILITY MODEL IN THE FIELD OF TWO-DIMENSIONAL[28] .....	20
FIGURE. 7 FLOWCHART OF THE PURE VANET SIMULATION SCENARIO .....	32
FIGURE. 8 FLOWCHART OF THE LTE-VANET SIMULATION SCENARIO .....	33
FIGURE. 9 PURE VANET SCENARIO NETWORK TOPOLOGY FOR 10 MNS .....	36
FIGURE. 10 LTE-VANET NETWORK TOPOLOGY FOR 10 MNS.....	37
FIGURE. 11 MNS MOVEMENT ON RANDOM WAYPOINT MOBILITY MODEL .....	37
FIGURE. 12 MNS MOVEMENT ON GAUSS-MARKOV MOBILITY MODEL WITH $\alpha=1$ AND $MN=10$ .....	37
FIGURE. 13 MNS MOVEMENTS ON GAUSS-MARKOV MOBILITY MODEL WITH $\alpha=0.5$ AND $MN=10$ .....	38
FIGURE. 14 PACKET DELIVERY RATIO IS DECREASING WHEN NUMBER OF MNS INCREASE.....	40
FIGURE. 15 PACKET DELIVERY RATIO ON DIFFERENT NUMBER OF MNS.....	40
FIGURE. 16 COMPARISON OF THE PDR BETWEEN GAUSS-MARKOV AND RANDOM WAYPOINT MOBILITY MODEL.....	41
FIGURE. 17 THROUGHPUT IS DECREASING WHEN NUMBER OF MNS INCREASE.....	41
FIGURE. 18 THROUGHPUT ON DIFFERENT NUMBER OF MNS.....	42
FIGURE. 19 THROUGHPUT COMPARISON BETWEEN GAUSS-MARKOV AND RANDOM WAYPOINT MOBILITY MODEL .....	42
FIGURE. 20 DELAY IS INCREASING WHEN NUMBER OF MNS INCREASE .....	43
FIGURE. 21 DELAY ON DIFFERENT NUMBER OF MNS .....	43
FIGURE. 22 DELAY COMPARISON BETWEEN GAUSS-MARKOV AND RANDOM WAYPOINT MOBILITY MODEL.....	44
FIGURE. 23 CORRELATION COEFFICIENT PDR WITH NUMBER OF MNS AND DELAY WITH NUMBER OF MNS.....	44
FIGURE. 24 CORRELATION COEFFICIENT THROUGHPUT WITH NUMBER OF MNS AND DELAY WITH NUMBER OF MNS.....	45
FIGURE. 25 CORRELATION COEFFICIENT BETWEEN PDR AND THROUGHPUT WITH $\alpha$ .....	45
FIGURE. 26 CORRELATION COEFFICIENT BETWEEN DELAY WITH $\alpha$ .....	46
FIGURE. 27 SPEARMAN CORRELATION COEFFICIENT BETWEEN PDR WITH THROUGHPUT AND DELAY AND BETWEEN THROUGHPUT WITH DELAY. ....	46
FIGURE. 28 PEARSON CORRELATION COEFFICIENT BETWEEN PDR WITH THROUGHPUT AND DELAY AND BETWEEN THROUGHPUT WITH DELAY. ....	47
FIGURE. 29 PACKET DELIVERY RATIO .....	48
FIGURE. 30 AVERAGE THROUGHPUT.....	48
FIGURE. 31 MEAN DELAY .....	49
FIGURE. 32 CORRELATION COEFFICIENT PDR VS MN AND DELAY VS MN .....	50
FIGURE. 33 CORRELATION COEFFICIENT THROUGHPUT VS MN AND DELAY VS MN.....	50
FIGURE. 34 CORRELATION COEFFICIENT BETWEEN PDR WITH $\alpha$ .....	51
FIGURE. 35 CORRELATION COEFFICIENT BETWEEN THROUGHPUT WITH $\alpha$ .....	51
FIGURE. 36 CORRELATION COEFFICIENT BETWEEN DELAY WITH $\alpha$ .....	51
FIGURE. 37 CORRELATION COEFFICIENT BETWEEN PDR AND THROUGHPUT.....	52
FIGURE. 38 CORRELATION COEFFICIENT BETWEEN PDR AND DELAY .....	52
FIGURE. 39 CORRELATION COEFFICIENT BETWEEN THROUGHPUT AND DELAY.....	52