**A new game-based methodology for optimal escape-maneuver**

M. A. Rushdi1, A. H. Kassem2, G. M. El- Bayoumi3

1Future University in Egypt, 2Cairo University, 3Cairo University.

[Mostafa.Roshdi@fue.edu.eg](mailto:Mostafa.Roshdi@fue.edu.eg)

**Abstract:** *This paper represents a new game-based methodology to find the optimal escape maneuvers against attacking missile. The idea is to build a mathematically-correct game of target-attacker and let many people play it to find the best escape maneuver and collect data and analysis and optimize the human-based escape maneuver. The game is based on 2D guidance law called proportional navigation, the equations which control the missile behavior. The player controls the target, trying to evade the missile. This game has been developed using Unity, which is a free cross-platform game engine. The preliminary results are reasonable and promising*.!!!